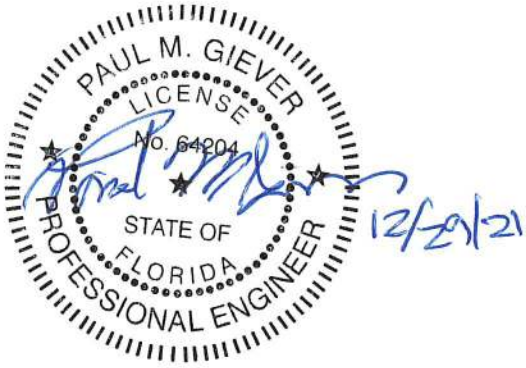
Ruzic Residence – 'Trio' Avrame

Fort White, FL

STRUCTURAL CALCULATIONS

Calculation Number: 8785-S9

December, 2021



For

Avrame USA, LLC

Teresa D Krell, PE	Paul M Giever, PE
Originator Print	Verifier Print
12/29/21	12/29/21
Originator Signature & Date	Verifier Signature & Date

Meier
ARCHITECTURE • ENGINEERING
12 W. Kennewick Ave.
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(509) 783-5075 fax
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Project No.: 8785

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Project Description:
Structural design of a two level aframe residence in Fort White, FL. The structure is made up of engineered wood "trusses" which form the walls/roof and the floors of the home. Plywood sheathing is used to create the shear panels and diaphragms. The building sits on perimeter continuous footings and spread footings where required for heavy point loads.

Design Criteria:
- 2020 Florida Building Code
- ASCE 7-16
- Applicable building material codes

Loads:
- Dead Loads:
  - Roof Dead = 25 psf
  - Floor Dead = 10 psf
  - Floor Collateral = 5 psf

Live Load:

- Roof Live = 20 psf

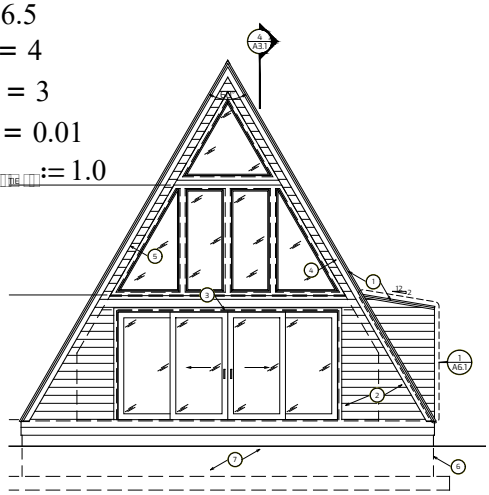
- Snow:
  - Ground Snow Load = 0 psf

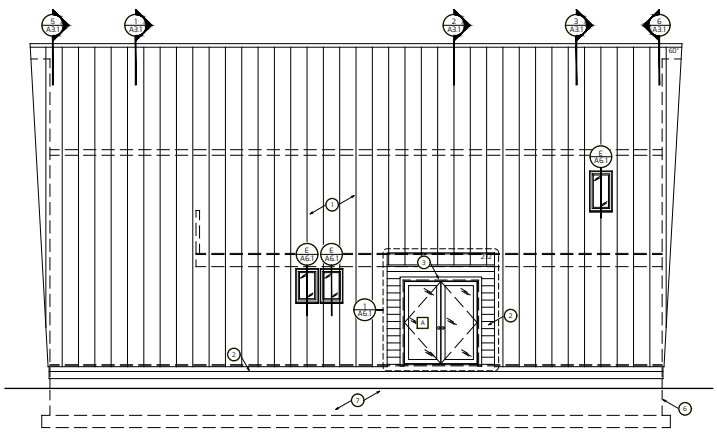
- Soil:
  - Allowable bearing Pressure = 1500 psf
  - Soil Modulus = 120 pci

- Wind:
  - V=121 mph
  - Exposure C
  - Enclosed

- Seismic:
  - = 0.08
  - = 0.08
  - Site Class = D (default)
  - = 1.0
  - SDC = B

Light-Framed wood walls with sheathing rated for shear resisance
  - R = 6.5
  - = 4
  - = 3
  - = 0.01
  - := 1.0





Project No: 8785 Date: by: TDK
Customer: Avrame USA Ck. by:
Job: Trio 150 Kemp Ocean Park WA

Floors

Material	
Beams	2.5
Sheathing	3.0
Gypsum	2.0
Misc, M&E	2.5
	-

Total (psf) 10.0

21.5:12 Pitched Roof:

	Material	
	Standing Seam Roof	2.3
	Sheathing	3.0
	Insulation	1.0
	Gypsum	2.0
	Beams	2.5
21.5	Slope Adjustment (X:12)	11.4
	Misc, M&E	2.8
		-

Total (psf) 25.0

P: 509.735.1589 F:509.735.5075 8697 Gage Boulevard, Kennewick, WA 99336 www.meierinc.com

Hazards by Location

Search Information

Address: Co Rd 778, Florida 32038, USA

Coordinates: 29.8865393, -82.6470719

Elevation: 53 ft

Timestamp: 2021-12-28T01:46:06.381Z

Hazard Type: Wind

ASCE 7-16

MRI 10-Year ..... 74 mph

MRI 25-Year ..... 83 mph

MRI 50-Year ..... 90 mph

MRI 100-Year ..... 98 mph

Risk Category I ..... 110 mph

Risk Category II ..... 121 mph

Risk Category III ..... ⚠ 131 mph

If the structure under consideration is a healthcare facility and you are also within 1 mile of the coastal mean high water line, you are in a wind-borne debris region. If other occupancy, use the Risk Category II basic wind speed contours to determine if you are in a wind-borne debris region.

Risk Category IV ..... ⚠ 137 mph

You are in a wind-borne debris region if you are also within 1 mile of the coastal mean high water line.

ASCE 7-10

MRI 10-Year ..... 76 mph

MRI 25-Year ..... 84 mph

MRI 50-Year ..... 92 mph

MRI 100-Year ..... 99 mph

Risk Category I ..... 111 mph

Risk Category II ..... 121 mph

Risk Category III-IV ..... ⚠ 131 mph

If the structure under consideration is a healthcare facility and you are also within 1 mile of the coastal mean high water line, you are in a wind-borne debris region. If other occupancy, use the Risk Category II basic wind speed contours to determine if you are in a wind-borne debris region.

ASCE 7-05

ASCE 7-05 Wind Speed ..... 102 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region

boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

Hazards by Location

Search Information

Address: Co Rd 778, Florida 32038, USA

Coordinates: 29.8865393, -82.6470719

Elevation: 53 ft

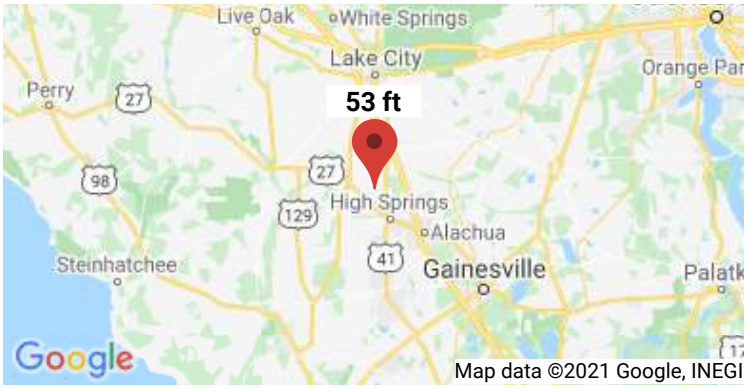
Timestamp: 2021-12-28T01:48:24.249Z

Hazard Type: Seismic

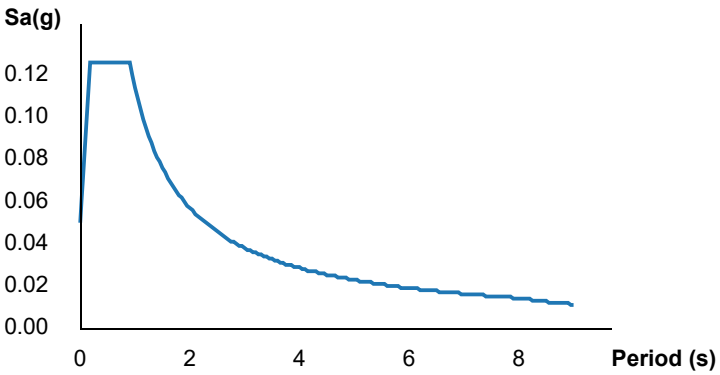
Reference Document: ASCE7-16

Risk Category: II

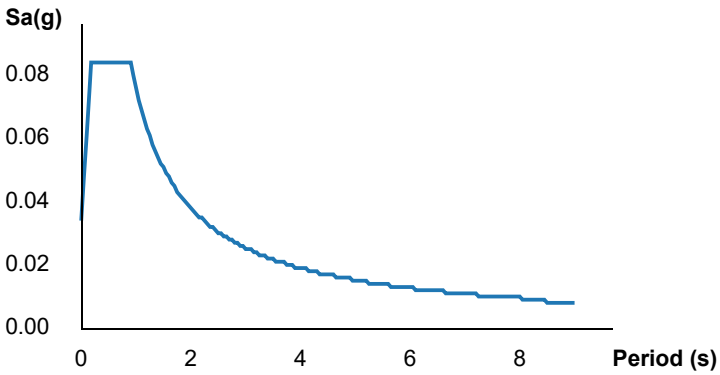
Site Class: D-default



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.079	MCE_R ground motion (period=0.2s)
S_1	0.048	MCE_R ground motion (period=1.0s)
S_{MS}	0.126	Site-modified spectral acceleration value
S_{M1}	0.114	Site-modified spectral acceleration value
S_{DS}	0.084	Numeric seismic design value at 0.2s SA
S_{D1}	0.076	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s

CR_S	0.917	Coefficient of risk (0.2s)
CR_1	0.891	Coefficient of risk (1.0s)
PGA	0.037	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.06	Site modified peak ground acceleration
T_L	8	Long-period transition period (s)
SsRT	0.079	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.086	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.048	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.053	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

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Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

ASCE CH. 27 WIND LOADS ON BUILDINGS - MWFRS (DIR. PROCEDURE)

26.10 VELOCITY PRESSURE - Sloped Roofs with Slope Greater than 10 *

Mean roof height (All building roofs are included in determination) $h := 23$ ft <----- Input

Characteristic plan dimension 1 (normal to roof ridge, width) $B := 30$ ft <----- Input

Characteristic plan dimension 2 (parallel to roof ridge, length) $L := 53$ ft <----- Input

Ground Elevation Above Sea Level Google Earth $z := 25$ ft <----- Input

Roof slope $\text{Slope} := 21.5$:12 <----- Input

Roof angle $\theta := \text{atan}\left(\frac{\text{Slope}}{12}\right) = 60.83$ deg

Basic wind speed Sitka design criteria $V := 121$ mph <----- Input

Exposure Category [ASCE 7-16 Section 26.7] Exposure := 2 <----- Input

Note:
Enter 1 for Exp. B
Enter 2 for Exp. C
Enter 3 for Exp. D

Wind directionality factor [ASCE 7-16 Table 26.6-1 - MWFRS] $K_d := 0.85$ <----- Input

Velocity pressure exposure coefficient at mean roof height [ASCE 7-16 Table 26.10-1] $K_z = 0.924$

Velocity pressure exposure coefficient for h=15,20,25,30, and 40ft [ASCE 7-16 Table 26.10-1]

$$K_z = \begin{bmatrix} 0.850 \\ 0.900 \\ 0.940 \\ 0.980 \\ 1.040 \end{bmatrix}$$

Topographic factor [ASCE 7-16 Section 26.8] $K_{zt} := 1.0$

Ground elevation factor [ASCE 7-16 Table 26.9-1] $K_e := e^{-0.0000362 \cdot \frac{z}{\text{ft}}} = 1.00$

Gust-effect factor [ASCE 7-16 Section 26.11] $G := 0.85$ <----- Input

Velocity pressure [ASCE 7-16 Equation 26.10-1] $q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot K_e \cdot \left(\frac{V}{1 \text{ mph}}\right)^2 \cdot \text{psf} = 29.41$ psf

Velocity pressure at h=15,20,25,30, and 40ft [ASCE 7-16 Equation 26.10-1]

$$q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot K_e \cdot \left(\frac{V}{1 \text{ mph}}\right)^2 \cdot \text{psf} = \begin{bmatrix} 27.06 \\ 28.65 \\ 29.92 \\ 31.19 \\ 33.10 \end{bmatrix} \text{psf}$$

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

27.3 WIND LOADS - MAIN WIND FORCE-RESISTING SYSTEM

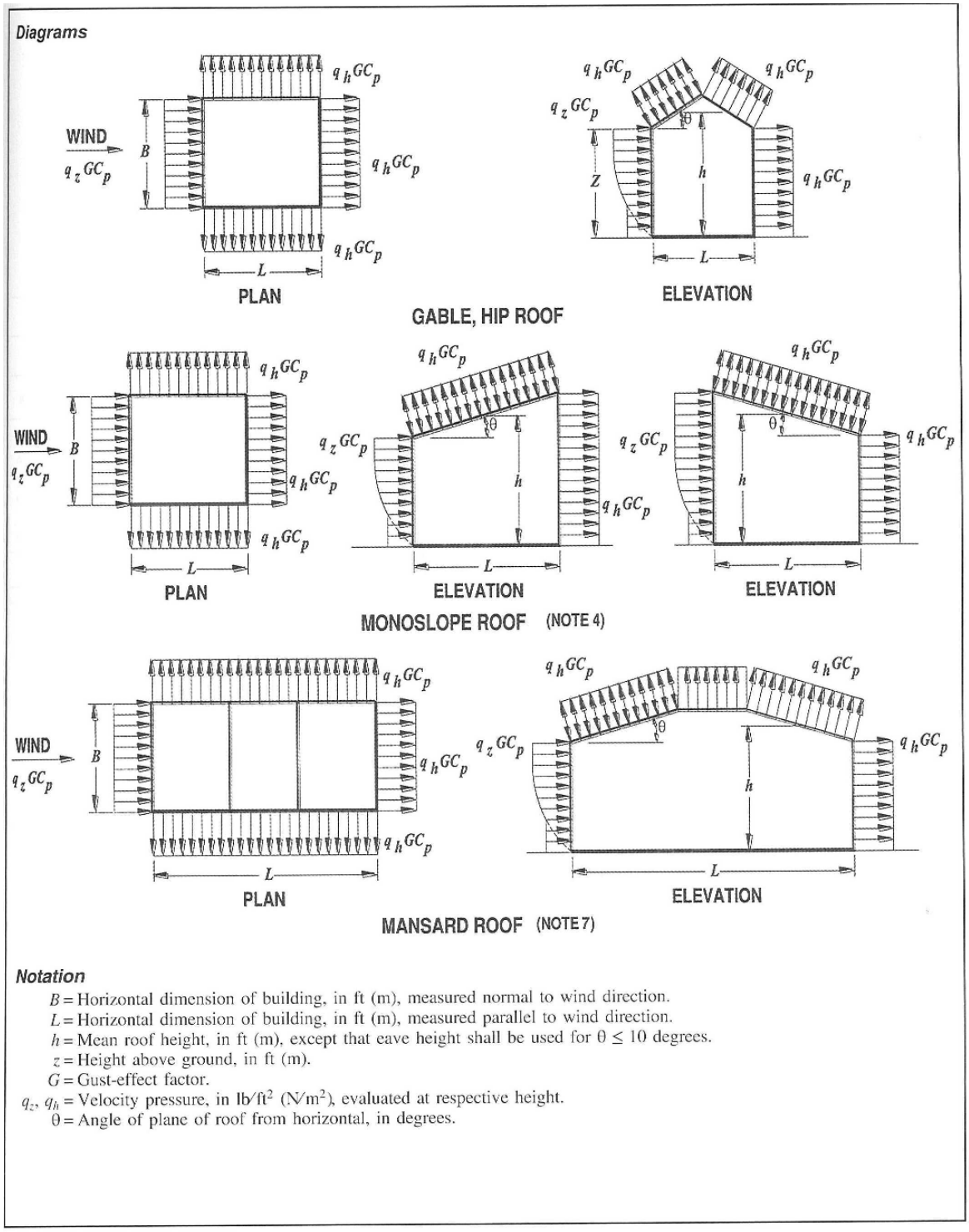

FIGURE 27.3-1 Main Wind Force Resisting System, Part 1 (All Heights): External Pressure Coefficients, C_p, for Enclosed and Partially Enclosed Buildings—Walls and Roofs

continues

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

27.3 WIND LOADS - MAIN WIND FORCE-RESISTING SYSTEM, CONTINUED

HORIZONTAL WIND AGAINST PLAN DIMENSION 1:

Minimum Net Wind Pressure on Horizontal Structure (ASCE 7-16 Section 27.1.5)

$$\square_{\square\square} := 16 \ \square\square\square$$

Wind face length

$$\square_{\square} := \square_{\square} = 30.00 \ \square\square$$

Depth of building length

$$\square_{\square} := \square_{\square} = 53.00 \ \square\square$$

Ratio of lengths

$$\square_{\square} := \frac{\square_{\square}}{\square_{\square}} = 1.77$$

Windward wall coefficient
[ASCE 7-16 Figure 27.3-1]

$$\square_{\square\square\square\square} := 0.8$$

Leeward wall coefficient
[ASCE 7-16 Figure 27.3-1]

$$\square_{\square\square\square\square\square} = -0.35$$

Side wall coefficient
[ASCE 7-16 Figure 27.3-1]

$$\square_{\square\square\square\square} := -0.7$$

Internal pressure coefficient
[ASCE 7-16 Table 26.13-1]

$$\square\square_{\square\square} := 0.18$$ **<----- Input**

Positive Internal Pressure
Maximum design wind pressure on windward wall at h=15,20,25,30, and 40ft
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square} := \square_{\square} \cdot \square_{\square\square} \cdot \square_{\square\square\square\square} + \square_{\square} \cdot \square\square_{\square\square} = \begin{bmatrix} 23.69 \\ 24.77 \\ 25.64 \\ 26.51 \\ 27.80 \end{bmatrix} \ \square\square\square \ *$$

Maximum design wind pressure on leeward wall
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square} := \square_{\square} \cdot \left(\square_{\square\square} \cdot \square_{\square\square\square\square\square} + \square\square_{\square\square}\right) = -3.37 \ \square\square\square$$

Maximum design wind pressure on side wall
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square} := \square_{\square} \cdot \left(\square_{\square\square} \cdot \square_{\square\square\square\square} + \square\square_{\square\square}\right) = -12.21 \ \square\square\square$$

Negative Internal Pressure
Minimum design wind pressure on windward wall at h=15,20,25,30, and 40ft
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square} := \square_{\square} \cdot \square_{\square\square} \cdot \square_{\square\square\square\square} - \square_{\square} \cdot \square\square_{\square\square} = \begin{bmatrix} 13.10 \\ 14.19 \\ 15.05 \\ 15.92 \\ 17.22 \end{bmatrix} \ \square\square\square$$

Minimum design wind pressure on leeward wall
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square} := \square_{\square} \cdot \left(\square_{\square\square} \cdot \square_{\square\square\square\square\square} - \square\square_{\square\square}\right) = -13.96 \ \square\square\square$$

Minimum design wind pressure on side wall
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square} := \square_{\square} \cdot \left(\square_{\square\square} \cdot \square_{\square\square\square\square} - \square\square_{\square\square}\right) = -22.79 \ \square\square\square$$

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

27.4 WIND LOADS - MAIN WIND FORCE-RESISTING SYSTEM, CONTINUED

HORIZONTAL WIND AGAINST PLAN DIMENSION 2:

Wind face length $L_2 := L_2 = 53.00$ ft

Depth of building length $B_2 := B_2 = 30.00$ ft

Ratio of lengths $\frac{B_2}{L_2} = 0.57$

Leeward wall coefficient $C_{L2} = -0.50$
[ASCE 7-16 Figure 27.3-1]

Positive Internal Pressure

For windward and side, positive and negative wall wind pressures refer to plan dimension 1 loads.

Maximum design wind pressure on leeward wall $p_{L2} := q_h \cdot (G \cdot C_{L2} + GC_{pi}) = -7.21$ psf
[ASCE 7-16 Equation 27.3-1]

Negative Internal Pressure

Minimum design wind pressure on leeward wall $p_{L2} := q_h \cdot (G \cdot C_{L2} - GC_{pi}) = -17.79$ psf
[ASCE 7-16 Equation 27.3-1]

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

27.4 WIND LOADS - MAIN WIND FORCE-RESISTING SYSTEM, CONTINUED

WIND AGAINST ROOF - NORMAL TO RIDGE:

Minimum design wind load projected onto a vertical plane normal to the assumed wind direction
[ASCE 7-16 Section 27.1.5]

$$\square_{\square\square\square\square\square\square\square\square} := 8 \ \square\square\square$$

Roof pressure ratio

$$\frac{\square_{\square}}{\square_{\square}} = 0.77$$

Maximum windward uplift roof coefficient
[ASCE 7-16 Figure 27.3-1]

$$\square_{\square\square\square\ \square\square\square\square\ \square\square} = 0.00$$

Maximum windward roof coefficient
[ASCE 7-16 Figure 27.3-1]

$$\square_{\square\square\square\ \square\square\square\square\ \square\square} = 0.61$$

Leeward uplift roof coefficient
[ASCE 7-16 Figure 27.3-1]

$$\square_{\square\square\square\square\square} = -0.60$$

Maximum design windward uplift on roof
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square} := \square_{\square} \cdot \left(\square_{\square\square} \cdot \square_{\square\square\square\ \square\square\square\square\ \square\square\square} - \square\square_{\square\square}\right) = -5.29 \ \square\square\square$$

Maximum design leeward uplift on roof
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square} := \square_{\square} \cdot \left(\square_{\square\square} \cdot \square_{\square\square\square\square\square\square} - \square\square_{\square\square}\right) = -20.29 \ \square\square\square$$

Maximum design wind pressure on windward roofs (Positive internal pressure)
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square\ \square} := \square_{\square} \cdot \left(\square_{\square\square} \cdot \square_{\square\square\square\ \square\square\square\square\ \square\square\square} + \square\square_{\square\square}\right) = 20.50 \ \square\square\square$$

Maximum design wind pressure on Leeward roofs (Positive internal pressure)
[ASCE 7-16 Equation 27.3-1]

$$\square_{\square\square\square\square\square\square\square\square\square} := \square_{\square} \cdot \left(\square_{\square\square} \cdot \square_{\square\square\square\square\square} + \square\square_{\square\square}\right) = -9.71 \ \square\square\square$$

Combined lateral windward and leeward wind load

$$\square_{\square\square\square\square\square\square\square\square\square} := \square_{\square\square\square\square\square\square\square\square\ \square} \cdot \sin\left(\square\right) - \square_{\square\square\square\square\square\square\square\square\square} \cdot \sin\left(\square\right) = 26.38 \ \square\square\square$$

$$\square_{\square\square\square\square\square\square\square\square\square\ \square\square} := \max\left(\square_{\square\square\square\square\square\square\square}, \square_{\square\square\square\square\square\square\square\square\square}\right) = 26.38 \ \square\square\square$$

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

27.4 WIND LOADS - MAIN WIND FORCE-RESISTING SYSTEM, CONTINUED

WIND AGAINST ROOF PARALLEL TO RIDGE:

Roof pressure ratio — [illegible] / [illegible] $= 0.43$

Roof coefficient for a horizontal distance 0 to h/2 from windward edge [ASCE 7-16 Figure 27.3-1] — [illegible] $= -0.90$

Roof coefficient for a horizontal distance h/2 to h from windward edge [ASCE 7-16 Figure 27.3-1] — [illegible] $= -0.90$

Roof coefficient for a horizontal distance h to 2h from windward edge [ASCE 7-16 Figure 27.3-1] — [illegible] $= -0.50$

Roof coefficient for a horizontal distance greater than 2h windward edge [ASCE 7-16 Figure 27.3-1] — [illegible] $= -0.30$

Roof coefficient for downward pressure [ASCE 7-16 Figure 27.3-1] — [illegible] $:= -0.18$

Maximum design wind uplift on roof for a distance 0 to h/2 from windward [ASCE 7-16 Equation 27.3-1] — [illegible] := [illegible] · ([illegible] · [illegible] − [illegible]) $= -27.79$ [illegible]

Maximum design wind uplift on roof for a distance h/2 to h from windward [ASCE 7-16 Equation 27.3-1] — [illegible] := [illegible] · ([illegible] · [illegible] − [illegible]) $= -27.79$ [illegible]

Maximum design wind uplift on roof for a distance h to 2h from windward [ASCE 7-16 Equation 27.3-1] — [illegible] := [illegible] · ([illegible] · [illegible] − [illegible]) $= -17.79$ [illegible]

Maximum design wind uplift on roof for a distance greater than 2h from windward [ASCE 7-16 Equation 27.3-1] — [illegible] := [illegible] · ([illegible] · [illegible] − [illegible]) $= -12.79$ [illegible]

Maximum design wind downward pressure on roofs [ASCE 7-16 Equation 27.3-1] — [illegible] := [illegible] · ([illegible] · [illegible] + [illegible]) $= 0.79$ [illegible]

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

27.4 WIND LOADS - MAIN WIND FORCE-RESISTING SYSTEM, CONTINUED

WIND ON ROOF OVERHANGS:

Roof coefficient for positive external pressure on underside of overhang [ASCE 7-16 Section 27.3.3]

$$\square_{\square\square\square\square\square} := 0.8$$

Roof coefficient for negative external pressure on topside of overhang [ASCE 7-16 Section 27.3.3]

$$\square_{\square\square\square\square\square} := \square\left(\square_{\square\square\square\square\square\square\square}, \square_{\square\square\square\square\square\square\square}, \square_{\square\square\square\square\square}\right) = -0.90$$

Uplift pressure on windward roof overhang

$$\square_{\square\square\square\square} := -\square_{\square} \cdot \square_{\square\square} \cdot \left(\square_{\square\square\square\square\square\square} - \square_{\square\square\square\square\square}\right) = -42.50 \ \square\square\square$$

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

ASCE 7-16 Wind - C&C

ASCE 7-16 CH. 30 WIND LOADS - COMPONENTS AND CLADDING

30.3 PART 1: LOW-RISE BUILDINGS - Gable Roof

Mean roof height (Includes all roofs in structure) $h := 23 \cdot ft$ **<----- Input** *

Minimum plan dimension $b := 33 \cdot ft$ **<----- Input**

Ground Elevation Above Sea Level $z := 0\ ft$ **<----- Input**

Roof slope $rise := 21.5\ :12$ **<----- Input**

Roof angle $\theta := \operatorname{atan}\left(\frac{rise}{12}\right) = 60.83\ deg$

Basic wind speed $V := 121 \cdot \frac{mi}{hr}$ **<----- Input**

Internal pressure coefficient [ASCE 7-16 Table 26.13-1] $GC_{pi} := 0.18$ **<----- Input**

Exposure Category [ASCE 7-16 Section 26.7] $Exp := 2$ **<----- Input**

Note:
Enter 1 for Exp. B
Enter 2 for Exp. C
Enter 3 for Exp. D

Wind directionality factor [ASCE 7-16 Table 26.6-1] $K_d := 0.85$ **<----- Input**

Ground elevation factor [ASCE 7-16 Table 26.9-1] $K_e := e^{-0.0000362 \cdot \frac{z}{ft}} = 1.00$

Velocity pressure exposure coefficient [ASCE 7-16 Table 26.10-1] $K_z = 0.924$

Topographic factor [ASCE 7-16 Section 26.8] $K_{zt} := 1.0$ **<----- Input**

Velocity pressure [ASCE 7-16 Equation 26.10-1] $q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot K_e \cdot \left(\frac{V}{1 \cdot mph}\right)^2 \cdot psf = 29.44\ psf$

Length of end/corner zone $a := \max\left(0.10 \cdot b, 0.4 \cdot h, 0.04 \cdot b, 3 \cdot ft\right) = 3.30\ ft$

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

ASCE 7-16 Wind - C&C

WALL PRESSURES

Wall component length	$l_{wall} := 17 + 8$ ft	<----- Input
Wall component tributary width	$w_{wall} := 12$ ft	<----- Input
Wall component effective area	$A_{wall} := l_{wall} \cdot \max\left(w_{wall}, \frac{l_{wall}}{3}\right) = 212.00$ ft^2	

External pressure coefficient [ASCE 7-16 Figure 30.3-1]

$GC_{p(+)} = 1.00$	$GC_{p(+)} = 0.77$	$GC_{p(+)} = 0.70$
$GC_{p(-)} = -1.10$	$GC_{p(-)} = -0.87$	$GC_{p(-)} = -0.80$
$GC_{p(-)} = -1.40$	$GC_{p(-)} = -0.93$	$GC_{p(-)} = -0.80$

Minimum wind pressure (+/-) [ASCE 7-16 30.2.2]: $p_{min} := 16$ psf

Wind Pressures for Actual Wall Components

Wall wind pressure (from outdoors to indoors) [ASCE Equation 30.3-1]: $p_{wall\ out\ in} := q_h \cdot \left(GC_{p(+)} - GC_{pi}\right) = 27.88$ psf

Wall wind pressure Zone 4 [ASCE Equation 30.3-1]: $p_{wall\ 4} := q_h \cdot \left(GC_{p(-)} - GC_{pi}\right) = -30.82$ psf

Wall wind pressure Zone 5 [ASCE Equation 30.3-1]: $p_{wall\ 5} := q_h \cdot \left(GC_{p(-)} - GC_{pi}\right) = -32.71$ psf

Maximum Wind Pressures for Wall Components (10sf)

Wall wind pressure (from outdoors to indoors) [ASCE Equation 30.3-1]: $p_{wall\ out\ in} := q_h \cdot \left(GC_{p(+)} + GC_{pi}\right) = 34.74$ psf

Wall wind pressure Zone 4 [ASCE Equation 30.3-1]: $p_{wall\ 4} := q_h \cdot \left(GC_{p(-)} - GC_{pi}\right) = -37.68$ psf

Wall wind pressure Zone 5 [ASCE Equation 30.3-1]: $p_{wall\ 5} := q_h \cdot \left(GC_{p(-)} - GC_{pi}\right) = -46.51$ psf

Minimum Wind Pressures for Wall Components (500sf)

Wall wind pressure (from outdoors to indoors) [ASCE Equation 30.3-1]: $p_{wall\ out\ in} := q_h \cdot \left(GC_{p(+)} + GC_{pi}\right) = 25.91$ psf

Wall wind pressure Zone 4 [ASCE Equation 30.3-1]: $p_{wall\ 4} := q_h \cdot \left(GC_{p(-)} - GC_{pi}\right) = -28.85$ psf

Wall wind pressure Zone 5 [ASCE Equation 30.3-1]: $p_{wall\ 5} := q_h \cdot \left(GC_{p(-)} - GC_{pi}\right) = -28.85$ psf

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
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Chapter 12.8 and 12.10 Seismic Design - ASCE 7-16

Seismic Design Factors from City of Sitka design criteria:

Mapped MCER spectral response acceleration parameter at short periods	$S_s := 0.079$	
Mapped MCER, 5% damped, spectral response acceleration parameter at 1sec	$S_1 := 0.048$	
Assume site class D		
Table 11.4-1	$F_a := 1.6$	
Table 11.4-2	$F_v := 2.4$	
Equation 11.4-3	$S_{MS} := F_a \cdot S_s = 0.13$	
Equation 11.4-4	$S_{M1} := F_v \cdot S_1 = 0.12$	
Design, 5% damped, spectral response acceleration parameter at short periods	$S_{DS} := \frac{2}{3} \cdot S_{MS} = 0.08$	
Design, 5% damped, spectral response acceleration parameter at 1sec	$S_{D1} := \frac{2}{3} \cdot S_{M1} = 0.08$	
		<---- input
Response modification coefficient (Table 12.2-1)	$R := 6.5$	**<---- input**
Overstrength factor (Table 12.2-1)	$\Omega_0 := 3.0$	**<---- input**
Redundancy factor (Section 12.3.4)	$\rho := 1.0$	**<---- input**
Importance factor (Table 1.5-2)	$I_e := 1$	**<---- input**

Seismic Response Coefficient

Building period coefficient (Table 12.8-2)	$C_t := 0.02$	**<---- input**
Building period coefficient (Table 12.8-2)	$x := 0.75$	**<---- input**
Structural height (Upper mean roof height)	$h_n := 23$ ft	**<---- input**
Approximate fundamental period (Equation 12.8-7)	$T_a := C_t \cdot \left(\frac{h_n}{1\ \text{ft}}\right)^{x} = 0.21$	
Long period transition period per Figure 22-14	$T_L := 16$	
	$C_s := \frac{S_{DS}}{\frac{R}{I_e}} = 0.91$	
For $1.5\ T_a < T \le T_L$ (Equation 12.8-3)	$C_{s\_max} := \frac{S_{D1}}{T \cdot \left(\frac{R}{I_e}\right)} = 0.06$	

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Seismic Response Coefficient Min
Minimum seismic response coefficient (Equation 12.8-5)

$$\square_{\square\square\square} := \textbf{if}\left(\square_{\square} < 0.6, \max\left(0.044 \cdot \square_{\square\square} \cdot \square_{\square}, 0.01\right), \frac{0.5 \cdot \square_{\square}}{\left(\frac{\square}{\square_{\square}}\right)}\right) = 0.01$$

Seismic Response Coefficient
Seismic response coefficient (Equation 12.8-2)

$$\square_{\square\square} := \frac{\square_{\square\square}}{\left(\frac{\square}{\square_{\square}}\right)} = 0.01$$

Seismic response coefficient to be used in calculation

$$\square_{\square} := \begin{array}{l} \text{if } \square_{\square\square} < \square_{\square\square\square} \\ \quad \| \ \square_{\square\square\square} \\ \text{else if } \square_{\square\square} > \square_{\square\square\square} \\ \quad \| \ \square_{\square\square\square} \\ \text{else} \\ \quad \| \ \square_{\square\square} \end{array} = 0.01$$

Effective seismic weight $\square_{\square} := 63.4$ □□□

Height to level (x)
Height to Roof (Mean) $\square_{\square} := 23$ □□

Seismic base shear (Equation 12.8.1) $\square := \square_{\square} \cdot \square_{\square} = 0.82$ □□□

Vertical distribution of seismic forces (Section 12.8.3)

Exponent related to structural period $\square := 1.0$ **<---- input**

Sum of weight x height for all floors ($\square\square_{\square\square}$) $\square\square_{\square\square} := \square_{\square} \cdot \square_{\square} = 1458.2$ □□□ · □□

Vertical distribution factor $\square_{\square\square} := \frac{\square_{\square} \cdot \square_{\square}^{\square}}{\square\square_{\square\square}} = 1$

Lateral seismic force at each level
Roof $\square_{\square} := \square_{\square\square} \cdot \square = 821.92$ □□□

Horizontal distribution of forces (Section 12.8.4)
Seismic design shear at given level: Main Force Resisting System
Roof $\square_{\square} := \square_{\square} = 0.82$ □□□

Diaphragm Loads (12.10.1) - Minimum diaphragm design loads

Roof $\square_{\square\square\square\square} := \frac{\square_{\square}}{\square_{\square}} \cdot \square_{\square} = 821.92$ □□□

Minimum diaphragm force $\square_{\square\square\square\square\square} := 0.2 \cdot \square_{\square\square} \cdot \square_{\square} \cdot \square_{\square} = 1068.5$ □□□

Maximum diaphragm force $\square_{\square\square\square\square\square} := 0.4 \cdot \square_{\square\square} \cdot \square_{\square} \cdot \square_{\square} = 2137$ □□□

Roof minimum diaphragm design force $\square_{\square\square} := \textbf{if}\left(\square_{\square\square\square\square} \geq \square_{\square\square\square\square\square}, \square\square\left(\square_{\square\square\square\square}, \square_{\square\square\square\square\square}\right), \square_{\square\square\square\square\square}\right) = 1069$ □□□

Diaphragm design force at roof $\square_{\square\square\square\square\square\square\square\square\square} := \max\left(\square_{\square}, \square_{\square\square}\right) = 1068.5$ □□□

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 21 JUN 2021, 2:23PM

Wood Beam

File: 8785.ec6

Lic. # : KW-06000591 — MEIER ENTERPRISES INC.

DESCRIPTION: Double bottom plate in bending

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Stress Design
Load Combination ASCE 7-16

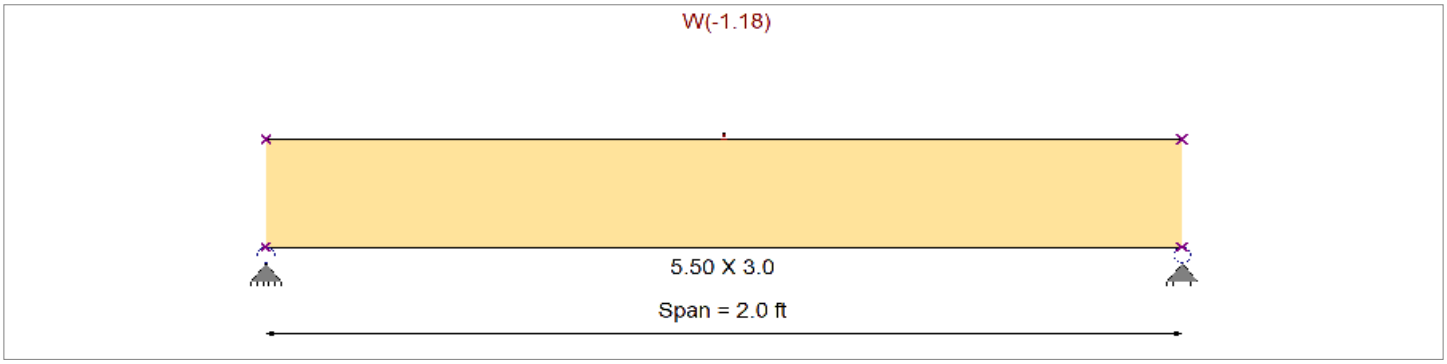
Wood Species :
Wood Grade :

Beam Bracing : Completely Unbraced

Fb +	1,000.0 psi
Fb -	1,000.0 psi
Fc - Prll	1,000.0 psi
Fc - Perp	1,000.0 psi
Fv	65.0 psi
Ft	65.0 psi

E : Modulus of Elasticity

Ebend- xx	1,300.0 ksi
Eminbend - xx	1,300.0 ksi
Density	34.0 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Point Load : W = -1.180 k @ 1.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.322 : 1	Maximum Shear Stress Ratio	=	0.309 : 1
Section used for this span		5.50 X 3.0	Section used for this span		5.50 X 3.0
fb: Actual	=	514.91 psi	fv: Actual	=	32.18 psi
Fb: Allowable	=	1,600.00 psi	Fv: Allowable	=	104.00 psi
Load Combination		+0.60W	Load Combination		+0.60W
Location of maximum on span	=	1.000 ft	Location of maximum on span	=	1.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.000 in	Ratio =	0 <360
Max Upward Transient Deflection	-0.021 in	Ratio =	1129 >=360
Max Downward Total Deflection	0.000 in	Ratio =	0 <180
Max Upward Total Deflection	-0.013 in	Ratio =	1883 >=180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
													0.00	0.00	0.00	0.00
Length = 2.0 ft	1			0.90	1.000	1.00	1.00	1.00	1.00	1.00			900.00	0.00	0.00	58.50
+0.60W					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 2.0 ft	1	0.322	0.309	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.35	514.91	1600.00	0.35	32.18	104.00
+0.450W					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 2.0 ft	1	0.241	0.232	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.27	386.18	1600.00	0.27	24.14	104.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000	W Only	-0.0212	1.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	-0.590	-0.590

Project Title:
Engineer:
Project ID:
Project Descr:

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Wood Beam

File: 8785.ec6

Lic. # : KW-06000591

MEIER ENTERPRISES INC.

DESCRIPTION: Double bottom plate in bending

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MINimum	-0.354	-0.354
+0.60W	-0.354	-0.354
+0.450W	-0.266	-0.266
W Only	-0.590	-0.590

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 29 JUL 2021, 5:07PM

Multiple Simple Beam

File: Avrame 20psf RLL.ec6

Lic. # : KW-06000591

MEIER ENTERPRISES INC.

Description :

Wood Beam Design : Dormer beam - 8 foot

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

BEAM Size : **2-1.75x9.25, Microllam LVL, Fully Unbraced**
Using Allowable Stress Design with ASCE 7-16 Load Combinations, Major Axis Bending
Wood Species : iLevel Truss Joist
Wood Grade : MicroLam LVL 1.9 E

Fb - Tension	2,600.0 psi	Fc - Prll	2,510.0 psi	Fv	285.0 psi	Ebend- xx	1,900.0 ksi	Density	42.010 pcf
Fb - Compr	2,600.0 psi	Fc - Perp	750.0 psi	Ft	1,555.0 psi	Eminbend - xx	965.71 ksi		

Applied Loads

Beam self weight calculated and added to loads

Unif Load: D = 0.0250, Lr = 0.020, S = 0.0050 k/ft, Trib= 6.0 ft

Design Summary

Max fb/Fb Ratio = **0.170** : 1
fb : Actual : 537.49 psi at 4.000 ft in Span # 1
Fb : Allowable : 3,153.92 psi
Load Comb : +D+Lr+H

Max fv/FvRatio = **0.118** : 1
fv : Actual : 42.12 psi at 0.000 ft in Span # 1
Fv : Allowable : 356.25 psi
Load Comb : +D+Lr+H

Max Reactions (k)	D	L	Lr	S	W	E	H
Left Support	0.64		0.48	0.12			
Right Support	0.64		0.48	0.12			

Max Deflections

Transient Downward	0.025 in	Total Downward	0.059 in
Ratio	3787	Ratio	1626
	LC: Lr Only		LC: +D+Lr+H
Transient Upward	0.000 in	Total Upward	0.000 in
Ratio	9999	Ratio	9999
	LC:		LC:

Wood Beam Design : Dormer beam - 10 foot

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

BEAM Size : **2-1.75x9.25, Microllam LVL, Fully Unbraced**
Using Allowable Stress Design with ASCE 7-16 Load Combinations, Major Axis Bending
Wood Species : iLevel Truss Joist
Wood Grade : MicroLam LVL 1.9 E

Fb - Tension	2,600.0 psi	Fc - Prll	2,510.0 psi	Fv	285.0 psi	Ebend- xx	1,900.0 ksi	Density	42.010 pcf
Fb - Compr	2,600.0 psi	Fc - Perp	750.0 psi	Ft	1,555.0 psi	Eminbend - xx	965.71 ksi		

Applied Loads

Beam self weight calculated and added to loads

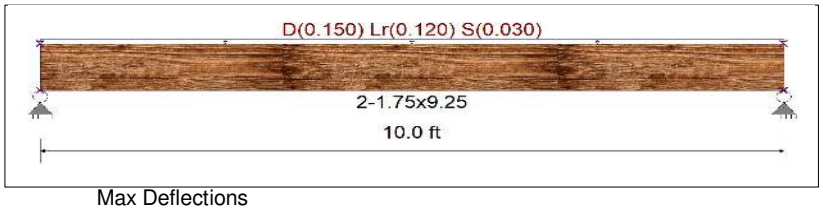
Unif Load: D = 0.0250, Lr = 0.020, S = 0.0050 k/ft, Trib= 6.0 ft

Design Summary

Max fb/Fb Ratio = **0.269** : 1
fb : Actual : 839.82 psi at 5.000 ft in Span # 1
Fb : Allowable : 3,120.23 psi
Load Comb : +D+Lr+H

Max fv/FvRatio = **0.154** : 1
fv : Actual : 54.81 psi at 9.233 ft in Span # 1
Fv : Allowable : 356.25 psi
Load Comb : +D+Lr+H

Max Reactions (k)	D	L	Lr	S	W	E	H
Left Support	0.80		0.60	0.15			
Right Support	0.80		0.60	0.15			



Max Deflections

Transient Downward	0.062 in	Total Downward	0.144 in
Ratio	1938	Ratio	832
	LC: Lr Only		LC: +D+Lr+H
Transient Upward	0.000 in	Total Upward	0.000 in
Ratio	9999	Ratio	9999
	LC:		LC:

Project Title:
Engineer:
Project ID:
Project Descr:

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Multiple Simple Beam

File: Avrame 20psf RLL.ec6

Lic. # : KW-06000591

MEIER ENTERPRISES INC.

Wood Beam Design : Stair stringer

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

BEAM Size : **1.75x11.87, Microllam LVL, Fully Unbraced**

Using Allowable Stress Design with ASCE 7-16 Load Combinations, Major Axis Bending

Wood Species : iLevel Truss Joist — Wood Grade : MicroLam LVL 1.9 E

Fb - Tension	2,600.0 psi	Fc - Prll	2,510.0 psi	Fv	285.0 psi	Ebend- xx	1,900.0 ksi	Density	42.010 pcf
Fb - Compr	2,600.0 psi	Fc - Perp	750.0 psi	Ft	1,555.0 psi	Eminbend - xx	965.71 ksi		

Applied Loads

Beam self weight calculated and added to loads

Unif Load: D = 0.0150, L = 0.040 k/ft, Trib= 2.0 ft

Design Summary

Max fb/Fb Ratio = **0.979** : 1
fb : Actual : 889.95 psi at 7.250 ft in Span # 1
Fb : Allowable : 909.04 psi
Load Comb : +D+L+H

Max fv/FvRatio = **0.185** : 1
fv : Actual : 52.64 psi at 13.533 ft in Span # 1
Fv : Allowable : 285.00 psi
Load Comb : +D+L+H

Max Reactions (k)	D	L	Lr	S	W	E	H
Left Support	0.26	0.58					
Right Support	0.26	0.58					

Max Deflections

Transient Downward	0.172 in	Total Downward	0.250 in
Ratio	1009	Ratio	695
	LC: L Only		LC: +D+L+H
Transient Upward	0.000 in	Total Upward	0.000 in
Ratio	9999	Ratio	9999
	LC:		LC:

Wood Beam Design : Dormer rafter

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

BEAM Size : **1.75x9.5, Microllam LVL, Fully Unbraced**

Using Allowable Stress Design with ASCE 7-16 Load Combinations, Major Axis Bending

Wood Species : iLevel Truss Joist — Wood Grade : MicroLam LVL 1.9 E

Fb - Tension	2,600.0 psi	Fc - Prll	2,510.0 psi	Fv	285.0 psi	Ebend- xx	1,900.0 ksi	Density	42.010 pcf
Fb - Compr	2,600.0 psi	Fc - Perp	750.0 psi	Ft	1,555.0 psi	Eminbend - xx	965.71 ksi		

Applied Loads

Beam self weight calculated and added to loads

Unif Load: D = 0.0150, Lr = 0.020, S = 0.0270 k/ft, Trib= 2.0 ft

Design Summary

Max fb/Fb Ratio = **0.052** : 1
fb : Actual : 126.58 psi at 2.500 ft in Span # 1
Fb : Allowable : 2,456.67 psi
Load Comb : +D+S+H

Max fv/FvRatio = **0.042** : 1
fv : Actual : 13.76 psi at 4.217 ft in Span # 1
Fv : Allowable : 327.75 psi
Load Comb : +D+S+H

Max Reactions (k)	D	L	Lr	S	W	E	H
Left Support	0.09		0.10	0.14			
Right Support	0.09		0.10	0.14			

Max Deflections

Transient Downward	0.003 in	Total Downward	0.005 in
Ratio	9999	Ratio	9999
	LC: S Only		LC: +D+S+H
Transient Upward	0.000 in	Total Upward	0.000 in
Ratio	9999	Ratio	9999
	LC:		LC:

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 26 MAY 2021, 4:59PM

Wood Beam

File: 8785.ec6

Lic. # : KW-06000591 — MEIER ENTERPRISES INC.

DESCRIPTION: Wind girt

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : ASCE 7-16

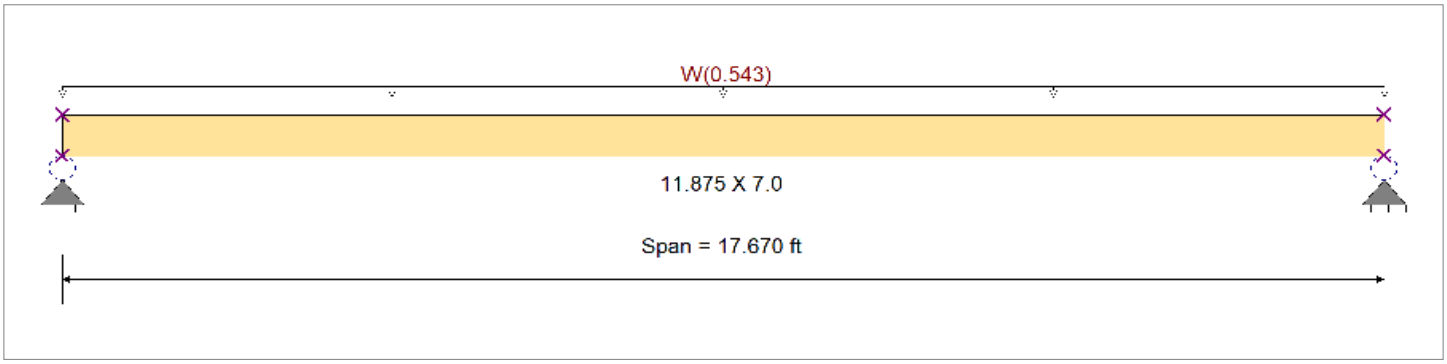
Wood Species : iLevel Truss Joist
Wood Grade : TimberStrand LSL 1.3E - Beam/Col

Beam Bracing : Completely Unbraced

Fb +	1700 psi
Fb -	1700 psi
Fc - Prll	1400 psi
Fc - Perp	680 psi
Fv	400 psi
Ft	1075 psi

E : Modulus of Elasticity

Ebend- xx	1300 ksi
Eminbend - xx	660.75 ksi
Density	45.01 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads

Uniform Load : W = 0.5430 , Tributary Width = 1.0 ft, (wind C&C)

DESIGN SUMMARY

Design N.G.

Maximum Bending Stress Ratio	=	0.625 : 1	Maximum Shear Stress Ratio	=	0.082 : 1
Section used for this span		11.875 X 7.0	Section used for this span		11.875 X 7.0
fb: Actual	=	1,698.87 psi	fv: Actual	=	52.40 psi
Fb: Allowable	=	2,720.00 psi	Fv: Allowable	=	640.00 psi
Load Combination		+D+0.60W	Load Combination		+D+0.60W
Location of maximum on span	=	8.835 ft	Location of maximum on span	=	17.090 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	1.222 in	Ratio =	173 <200
Max Upward Transient Deflection	0.000 in	Ratio =	0 <200
Max Downward Total Deflection	1.759 in	Ratio =	120 >=120
Max Upward Total Deflection	0.000 in	Ratio =	0 <120

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 17.670 ft	1	0.082	0.011	0.90	1.000	1.00	1.00	1.00	1.00	1.00	1.01	125.48	1530.00	0.21	3.87	360.00
+D+0.60W					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 17.670 ft	1	0.625	0.082	1.60	1.000	1.00	1.00	1.00	1.00	1.00	13.73	1,698.87	2720.00	2.90	52.40	640.00
+D+0.450W					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 17.670 ft	1	0.480	0.063	1.60	1.000	1.00	1.00	1.00	1.00	1.00	10.55	1,305.52	2720.00	2.23	40.27	640.00
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 17.670 ft	1	0.028	0.004	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.61	75.29	2720.00	0.13	2.32	640.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.60W	1	1.7589	8.899		0.0000	0.000

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 26 MAY 2021, 4:59PM

Wood Beam

File: 8785.ec6

Lic. # : KW-06000591 MEIER ENTERPRISES INC.

DESCRIPTION: Wind girt

Vertical Reactions

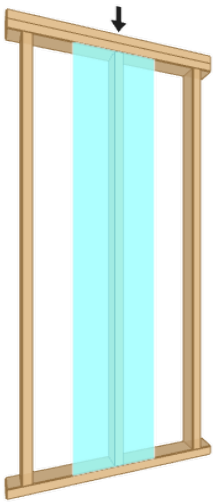
Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	4.797	4.797
Overall MINimum	4.797	4.797
D Only	0.230	0.230
+D+0.60W	3.108	3.108
+D+0.450W	2.388	2.388
+0.60D+0.60W	3.016	3.016
+0.60D	0.138	0.138
W Only	4.797	4.797

Level, Wall: Stud

1 piece(s) 2 x 4 DF No.2 @ 16" OC

Wall Height: 5' 6" | Member Height: 5' 1 1/2" | O. C. Spacing: 16.00"



Drawing is Conceptual

Design Results	Actual	Allowed	Result	LDF	Load: Combination
Slenderness	41	50	Passed (82%)	--	--
Compression (lbs)	1100	1428	Passed (77%)	1.00	1.0 D + 1.0 L
Plate Bearing (lbs)	1100	4102	Passed (27%)	--	1.0 D + 1.0 L
Lateral Reaction (lbs)	54	--	--	1.60	1.0 D + 0.6 W
Lateral Shear (lbs)	48	1008	Passed (5%)	1.60	1.0 D + 0.6 W
Lateral Moment (ft-lbs)	70 @ mid-span	592	Passed (12%)	1.60	1.0 D + 0.6 W
Total Deflection (in)	0.04 @ mid-span	0.51	Passed (L/1756)	--	1.0 D + 0.45 W + 0.75 L + 0.75 Lr
Bending/Compression	0.76	1	Passed (76%)	1.00	1.0 D + 1.0 L

- Lateral deflection criteria: Wind (L/120)
- Input axial load eccentricity for this design is 16.67% of applicable member side dimension.
- Applicable calculations are based on NDS.
- A bearing area factor of 1.25 has been applied to base plate bearing capacity.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.

Supports	Type	Material
Top	Dbl 2X	Douglas Fir-Larch
Base	2X	Douglas Fir-Larch

System : Wall
Member Type : Stud
Building Code : IBC 2018
Design Methodology : ASD

Max Unbraced Length	Comments
5' 1 1/2"	

Lateral Connections

Supports	Connector	Type/ Model	Quantity	Connector Nailing
Top	Nails	8d x 2.5" Box (Toe)	1	N/A
Base	Nails	8d x 2.5" Box (Toe)	1	N/A

- Nailed connection at the top of the member is assumed to be nailed through the bottom 2x plate prior to placement of the top 2x of the double top plate assembly.

Vertical Load	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Point (lb)	N/A	300	800	Default Load

Lateral Load	Location	Spacing	Wind (1.60)	Comments
1 - Uniform (PSF)	Full Length	16.00"	26.5	

- ASCE/SEI 7 Sec. 30.4: Exposure Category (B), Mean Roof Height (33'), Topographic Factor (1.0), Wind Directionality Factor (0.85), Basic Wind Speed (115), Risk Category(II), Effective Wind Area determined using full member span and trib. width.
- IBC Table 1604.3, footnote f: Deflection checks are performed using 42% of this lateral wind load.

Weyerhaeuser Notes

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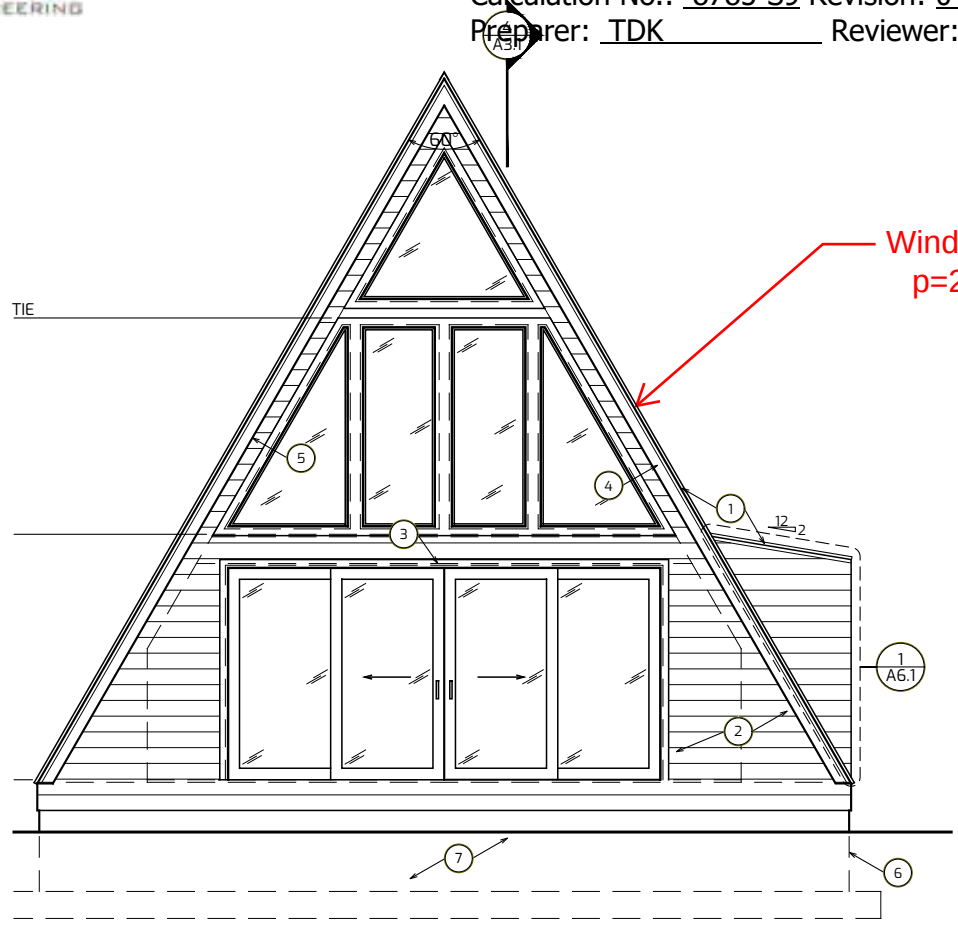
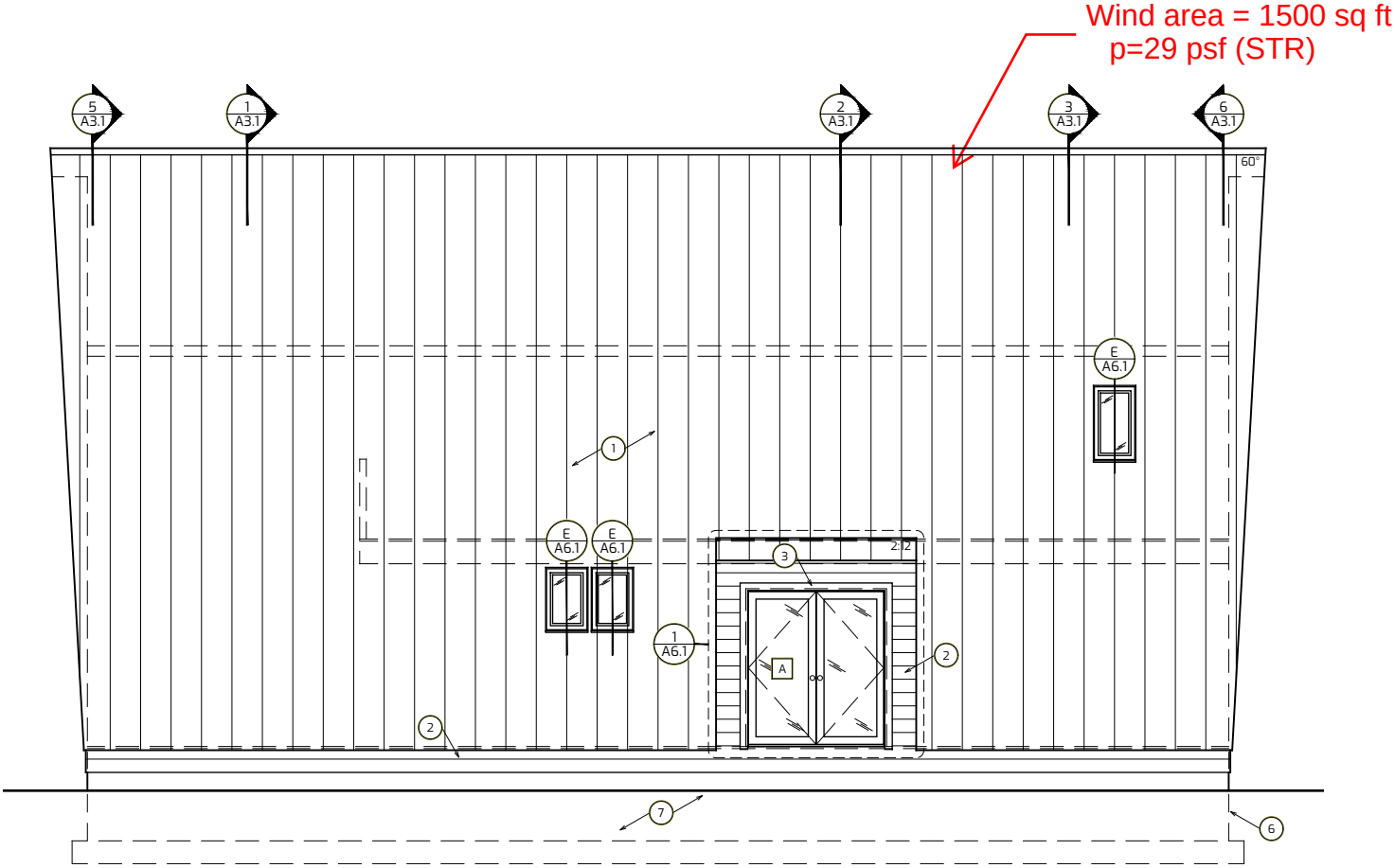
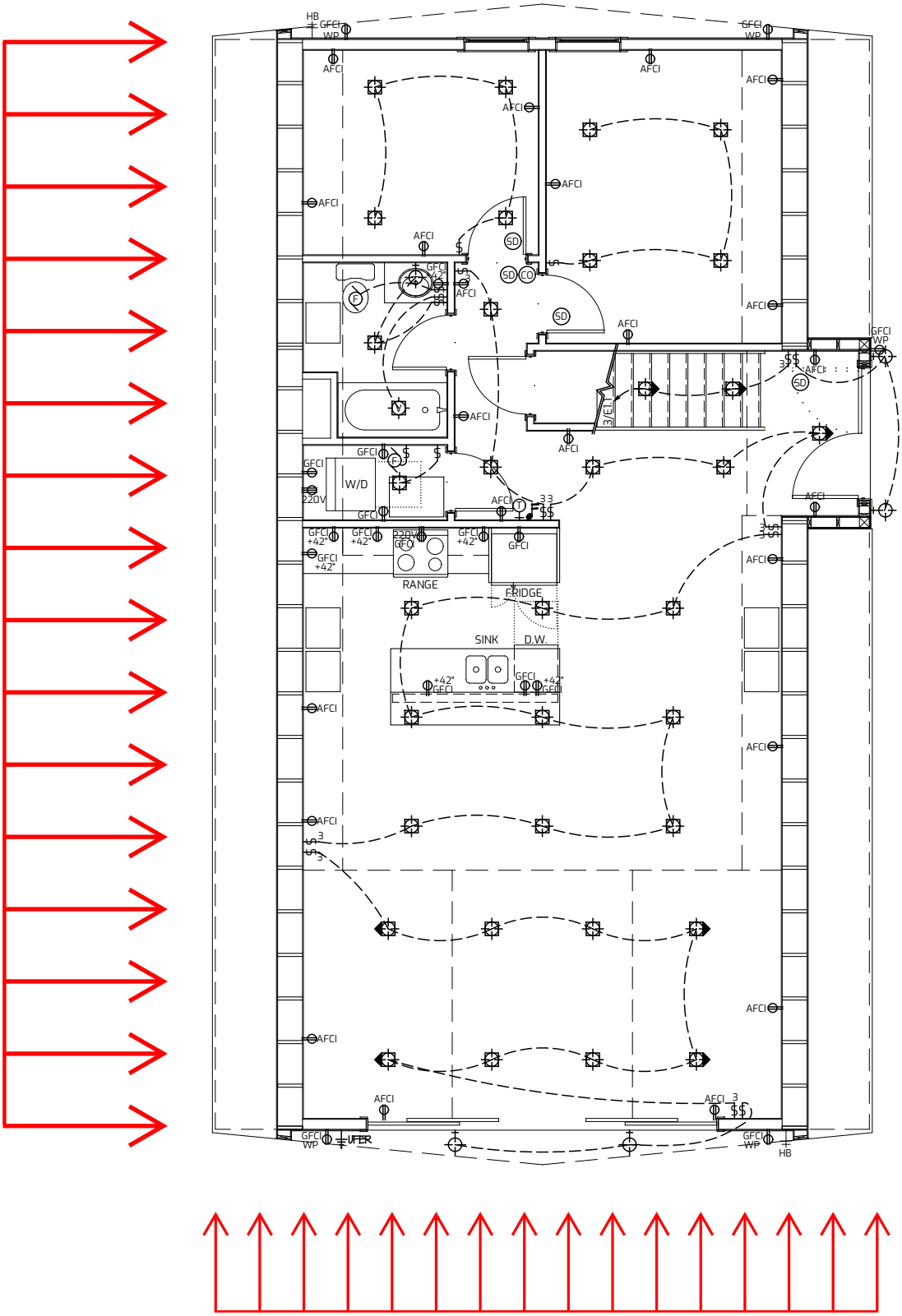
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:





Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:



Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Determine Seismic Weight and Vertical Distribution of Forces:

$\square\square_{\square\square\square\square} := 25$ $\square\square\square$ $\square\square_{\square\square\square\square\square} := 15$ $\square\square\square$ $\square\square_{\square\square\square\square} := 10$ $\square\square\square$

$\square\square\square\square_{\square} := 1000$ $\square\square^2$ $\square_{\square\square\square\square\square\square} := 140$ $\square\square$ $\square_{\square\square\square\square\square\square} := 6.67$ $\square\square$

$$\square_{\square} := \square\square\square\square_{\square} \cdot \square\square_{\square\square\square\square} + \frac{\square_{\square\square\square\square\square\square} \cdot \square_{\square\square\square\square\square\square} \cdot \square\square_{\square\square\square}}{2} = 29.67 \ \square\square\square$$

$\square\square\square\square_{\square} := 1500$ $\square\square^2$ $\square_{\square\square\square\square\square\square} := 150$ $\square\square$ $\square_{\square\square\square\square\square\square} := 10$ $\square\square$

$$\square_{\square} := \square\square\square\square_{\square} \cdot \square\square_{\square\square\square\square\square} + \frac{\square_{\square\square\square\square\square\square} \cdot \square_{\square\square\square\square\square\square} \cdot \square\square_{\square\square\square}}{2} + \frac{\square_{\square\square\square\square\square\square} \cdot \square_{\square\square\square\square\square\square} \cdot \square\square_{\square\square\square}}{2} = 34.67 \ \square\square\square$$

$\square_{\square\square\square\square} := \square_{\square} + \square_{\square} = 64.34$ $\square\square\square$

$\square_{\square\square\square\square\square\square} := \square_{\square} = 29.67$ $\square\square\square$

$\square_{\square\square\square\square\square\square} := \square_{\square} = 34.67$ $\square\square\square$

Seismic Loading, both directions

$\square_{\square\square} := 0.084$ From ATC Hazards Printout

$\square := 6.5$ Light-frame wood walls sheathed with wood structural panels rated for shear resistance.

$\square_{\square} := 1.0$

$$\square_{\square} := \frac{\square_{\square\square}}{\left(\frac{\square}{\square_{\square}}\right)} = 0.01$$ Eqn. 12.8-2 (controls by inspection)

$\square_{\square\square\square\square\square\square\square\square} := \square_{\square} \cdot \square_{\square\square\square\square\square} = 0.83$ $\square\square\square$ Eqn. 12.8-1

$\square_{\square\square\square\square\square} := 0.7 \cdot \square_{\square\square\square\square\square\square\square\square} = 0.58$ $\square\square\square$ ASD level seismic load.

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Wind Loading

$\square_{\square\square\square\square} := 29$ $\square\square\square$
$\square_{\square\square\square\square\square\square\square\square} := 0.6 \cdot \square_{\square\square\square\square} = 17.4$ $\square\square\square$

Wind pressure on walls per ASCE 27.3 directional procedure.

$\square_{\square\square\square\square} := 26.4$ $\square\square\square$
$\square_{\square\square\square\square\square\square\square} := 0.6$ $\square_{\square\square\square\square} = 15.84$ $\square\square\square$

Wind pressure on roof per ASCE 27.3 directional procedure.

$\square_{\square\square\square\square\square\square\square\square\square} := 42.5$ $\square\square\square$
$\square_{\square\square\square\square\square} := 0.6 \cdot \square_{\square\square\square\square\square\square\square\square\square} = 25.5$ $\square\square\square$

Wind pressure on overhangs per ASCE 27.3 directional procedure.

Find Wind Base Shear:

$\square\square\square\square_{\square\square\square\square\square\square} := 1500$ $\square\square^2$
$\square\square\square\square_{\square\square\square\square\square\square} := 0$ $\square\square^2$

See Lateral Load Maps for wall and roof areas.

$\square\square\square\square_{\square\square\square\square\square\square} := 500$ $\square\square^2$
$\square\square\square\square_{\square\square\square\square\square\square} := 0$ $\square\square^2$

$\square_{\square\square\square\square\square\square} := \square\square\square\square_{\square\square\square\square\square\square} \cdot \square_{\square\square\square\square\square\square\square\square} + \square\square\square\square_{\square\square\square\square\square\square} \cdot \square_{\square\square\square\square\square\square\square\square} = 26.1$ $\square\square\square$

$\square_{\square\square\square\square\square\square} := \square\square\square\square_{\square\square\square\square\square\square} \cdot \square_{\square\square\square\square\square\square\square\square} + \square\square\square\square_{\square\square\square\square\square\square} \cdot \square_{\square\square\square\square\square} = 8.7$ $\square\square\square$

Wind controls both directions.

X-Direction wind load taken by trusses
$\square_{\square\square\square\square\square\square} = 26.1$ $\square\square\square$

$\square_{\square\square\square\square\square} := 25$

$\square_{\square\square\square\square\square} := \frac{\square_{\square\square\square\square\square\square}}{\square_{\square\square\square\square\square}} = 1044$ $\square\square\square$

$\square_{\square\square\square\square\square} := \frac{\square_{\square\square\square\square\square}}{30} \cdot \frac{1}{0.6} = 58$ $\square\square \cdot \square\square\square$

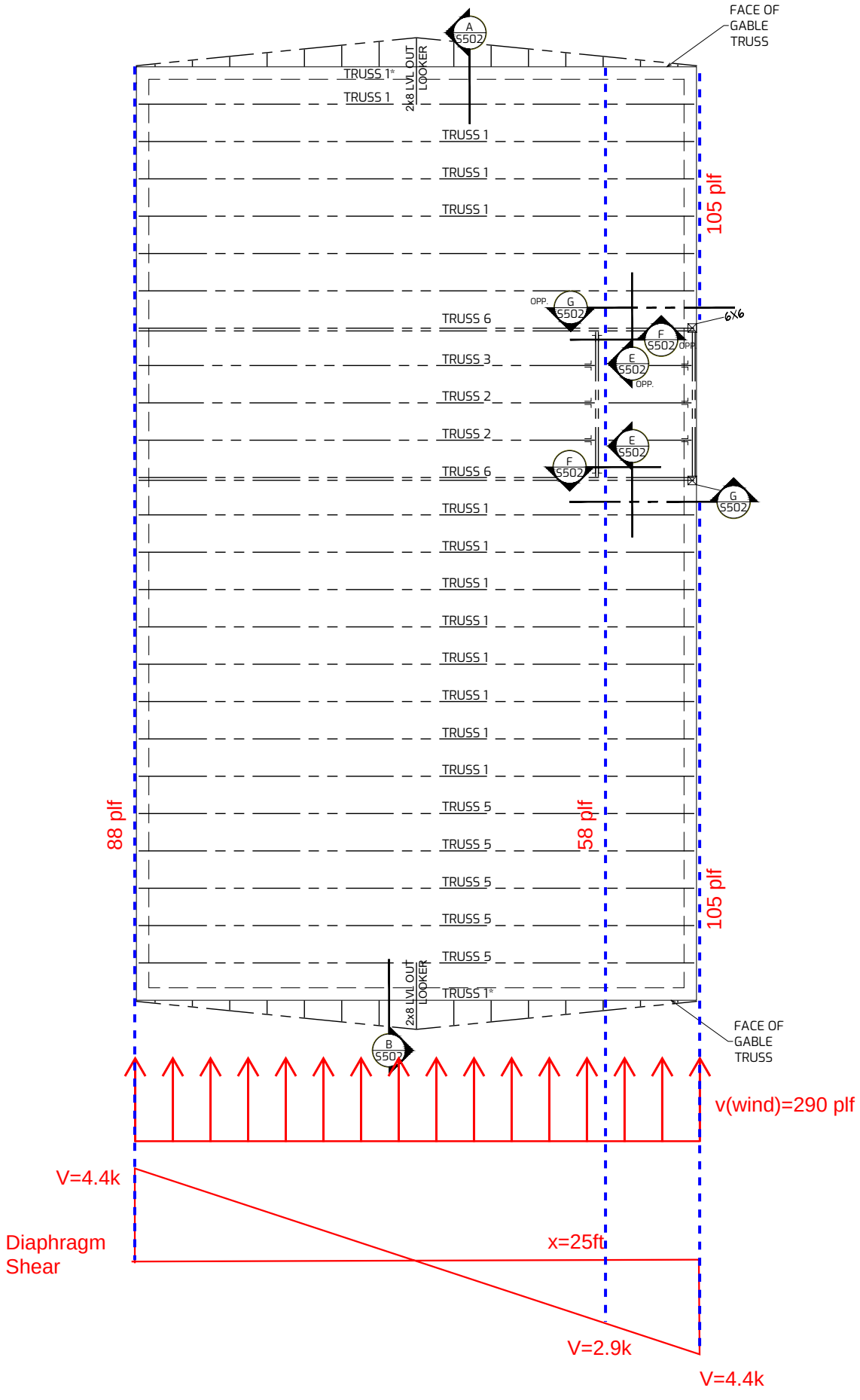
Wind load along truss height for RISA input (Strength Level)

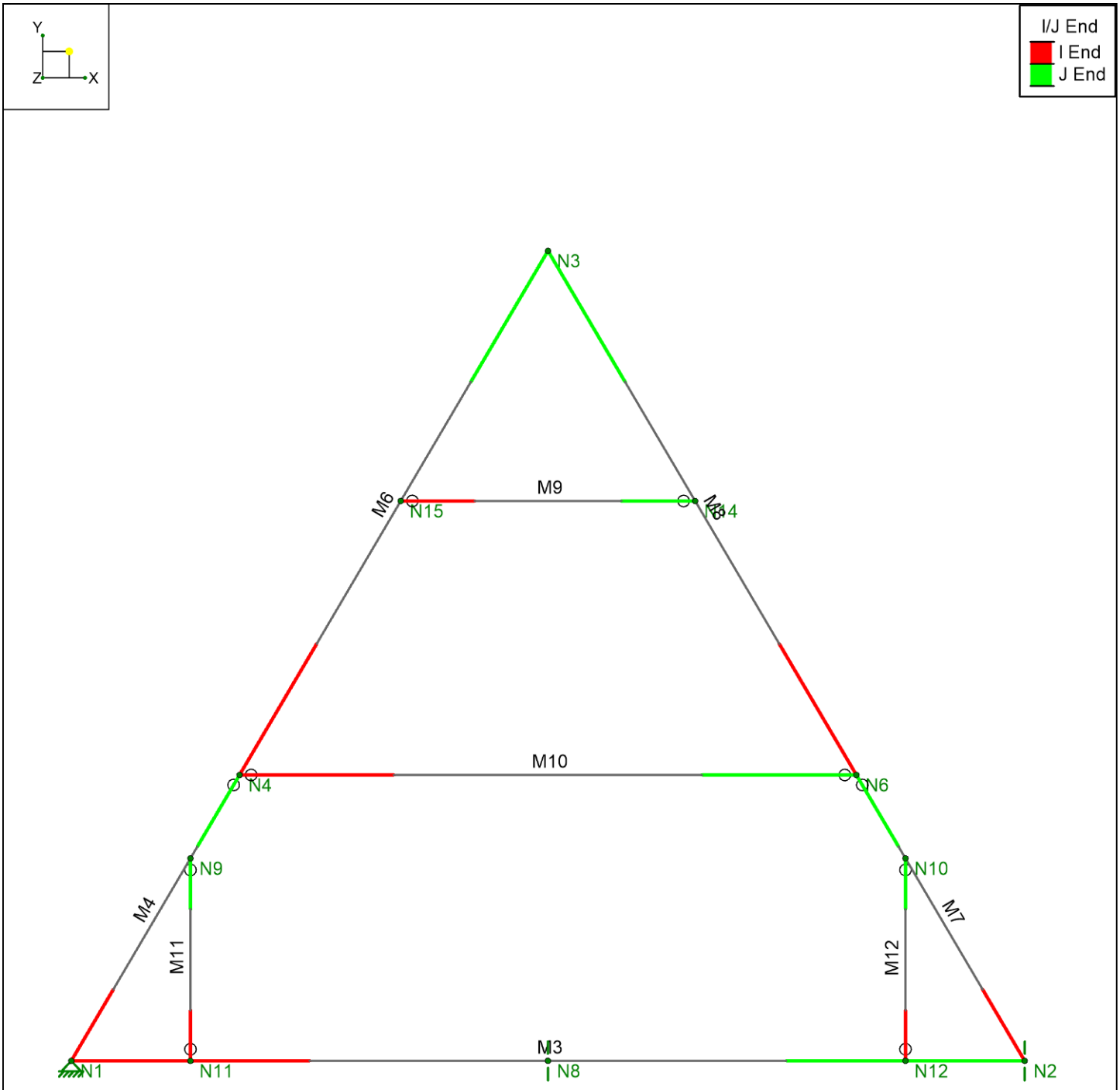
Y-Direction wind load taken by roof diaphragm:
$\square_{\square\square\square\square\square\square} = 8.7$ $\square\square\square$
$\square := 30$ $\square\square$

Building width

$\square_{\square} := \frac{\square_{\square\square\square\square\square\square}}{\square} = 290$ $\frac{\square\square\square}{\square\square}$

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:





Meier A+E		SK-1
TDK		Oct 19, 2021
8785		Truss 1 20psf LL 100mphExpC W…

RISA A NEMETSCHEK COMPANY

Company : Meier A+E
Designer : TDK
Job Number : 8785
Model Name :

Checked By : _____

1

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	0	0	0	
2	N2	30	0	0	
3	N3	15	25.5	0	
4	N4	5.294118	9	0	
5	N6	24.705882	9	0	
6	N8	15	0	0	
7	N14	19.632659	17.624479	0	
8	N15	10.367341	17.624479	0	
9	N9	3.75	6.375	0	
10	N10	26.25	6.375	0	
11	N11	3.75	0	0	
12	N12	26.25	0	0	

1 1

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	N2		Reaction	
2	N8		Reaction	Reaction
3	N1	Reaction	Reaction	Reaction

1 1 1 1 1 1 11

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N15	L	X	0.2
2	N4	L	X	0.25

1 1

No Data to Print...

1 1 1 1 11 1

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	Y	0.04	0.04	0	%100
2	M4	Y	-0.04	-0.04	0	%100
3	M4	Y	-0.04	-0.04	0	%100
4	M7	Y	-0.04	-0.04	0	%100
5	M10	Y	-0.02	-0.02	0	%100
6	M3	Y	-0.02	-0.02	0	%100
7	M9	Y	-0.02	-0.02	0	%100
8	M6	Y	-0.04	-0.04	0	%100
9	M8	Y	-0.04	-0.04	0	%100

1 1 1 1 11 1 1

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	Y	-0.04	-0.04	0	%100
2	M7	Y	-0.04	-0.04	0	%100
3	M6	Y	-0.04	-0.04	0	%100
4	M8	Y	-0.04	-0.04	0	%100

1 1 1 1 11 1

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M10	Y	-0.08	-0.08	0	%100
2	M3	Y	-0.08	-0.08	3.333	26

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	X	0.027	0.027	0	%100
2	M7	X	0.004	0.004	0	%100
3	M6	X	0.027	0.027	0	%100
4	M8	X	0.004	0.004	0	%100

	BLC Description	Category	Nodal	Distributed
1	Dead load	DL		9
2	Roof Live Load	RLL		4
3	Live load	LL		2
4	Wind load	WL		4
5	Seismic	EL	2	

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Deflection 1	Yes	Y	DL	1								
2	Deflection 2	Yes	Y	LL	1								
3	Deflection 3	Yes	Y	DL	1	LL	1						
4	IBC 16-8	Yes	Y	DL	1								
5	IBC 16-9	Yes	Y	DL	1	LL	1	LLS	1				
6	IBC 16-10 (a)	Yes	Y	DL	1	RLL	1						
7	IBC 16-11 (a)	Yes	Y	DL	1	LL	0.75	LLS	0.75	RLL	0.75		
8	IBC 16-12 (a)	Yes	Y	DL	1	WL	0.6						
9	IBC 16-13 (a)	Yes	Y	DL	1	WL	0.45	LL	0.75	LLS	0.75	RLL	0.75
10	IBC 16-13 (b)	Yes	Y	DL	1	WL	0.45	LL	0.75	LLS	0.75		
11	IBC 16-15	Yes	Y	DL	0.6	WL	0.6						
12	IBC 16-12 (b)	Yes	Y	DL	1	EL	0.7						
13	IBC 16-14	Yes	Y	DL	1	EL	0.525	LL	0.75	LLS	0.75		
14	IBC 16-16	Yes	Y	DL	0.6	EL	0.7						

	Description	CD	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	Deflection 1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Deflection 2		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Deflection 3		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	IBC 16-8	0.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	IBC 16-9		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	IBC 16-10 (a)	1.25	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	IBC 16-11 (a)	1.25	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	IBC 16-12 (a)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	IBC 16-13 (a)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	IBC 16-13 (b)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	IBC 16-15	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	IBC 16-12 (b)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	IBC 16-14	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	IBC 16-16	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N2	0	1.6137	0	0	0	0
2	1	N8	0	0.313	0	0	0	0
3	1	N1	0	1.6137	0	0	0	0
4	1	Totals:	0	3.5403	0			
5	1	COG (ft):	X: 15	Y: 10.4331	Z: 0			
6	2	N2	0	1.1362	0	0	0	0
7	2	N8	0	1.0539	0	0	0	0

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
8	2	N1	0	1.1763	0	0	0	0
9	2	Totals:	0	3.3663	0			
10	2	COG (ft):	X: 14.8204	Y: 4.1519	Z: 0			
11	3	N2	0	2.7494	0	0	0	0
12	3	N8	0	1.3679	0	0	0	0
13	3	N1	0	2.7893	0	0	0	0
14	3	Totals:	0	6.9066	0			
15	3	COG (ft):	X: 14.9124	Y: 7.3716	Z: 0			
16	4	N2	0	1.6137	0	0	0	0
17	4	N8	0	0.313	0	0	0	0
18	4	N1	0	1.6137	0	0	0	0
19	4	Totals:	0	3.5403	0			
20	4	COG (ft):	X: 15	Y: 10.4331	Z: 0			
21	5	N2	0	2.7494	0	0	0	0
22	5	N8	0	1.3679	0	0	0	0
23	5	N1	0	2.7893	0	0	0	0
24	5	Totals:	0	6.9066	0			
25	5	COG (ft):	X: 14.9124	Y: 7.3716	Z: 0			
26	6	N2	0	2.7744	0	0	0	0
27	6	N8	0	0.3583	0	0	0	0
28	6	N1	0	2.7744	0	0	0	0
29	6	Totals:	0	5.9071	0			
30	6	COG (ft):	X: 15	Y: 11.3614	Z: 0			
31	7	N2	0	3.3359	0	0	0	0
32	7	N8	0	1.1384	0	0	0	0
33	7	N1	0	3.3657	0	0	0	0
34	7	Totals:	0	7.8401	0			
35	7	COG (ft):	X: 14.9421	Y: 8.9349	Z: 0			
36	8	N2	0	1.8433	0	0	0	0
37	8	N8	0	0.3222	0	0	0	0
38	8	N1	-0.5467	1.3748	0	0	0	0
39	8	Totals:	-0.5467	3.5403	0			
40	8	COG (ft):	X: 15	Y: 10.4331	Z: 0			
41	9	N2	0	3.51	0	0	0	0
42	9	N8	0	1.1455	0	0	0	0
43	9	N1	-0.41	3.1847	0	0	0	0
44	9	Totals:	-0.41	7.8401	0			
45	9	COG (ft):	X: 14.9421	Y: 8.9349	Z: 0			
46	10	N2	0	2.6387	0	0	0	0
47	10	N8	0	1.1111	0	0	0	0
48	10	N1	-0.41	2.3153	0	0	0	0
49	10	Totals:	-0.41	6.065	0			
50	10	COG (ft):	X: 14.9252	Y: 7.8184	Z: 0			
51	11	N2	0	1.1971	0	0	0	0
52	11	N8	0	0.1968	0	0	0	0
53	11	N1	-0.5467	0.7303	0	0	0	0
54	11	Totals:	-0.5467	2.1242	0			
55	11	COG (ft):	X: 15	Y: 10.4331	Z: 0			
56	12	N2	0	1.7491	0	0	0	0
57	12	N8	0	0.3147	0	0	0	0
58	12	N1	-0.315	1.4765	0	0	0	0
59	12	Totals:	-0.315	3.5403	0			
60	12	COG (ft):	X: 15	Y: 10.4331	Z: 0			
61	13	N2	0	2.568	0	0	0	0
62	13	N8	0	1.1054	0	0	0	0
63	13	N1	-0.2362	2.3917	0	0	0	0
64	13	Totals:	-0.2362	6.065	0			
65	13	COG (ft):	X: 14.9252	Y: 7.8184	Z: 0			

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
66	14	N2	0	1.103	0	0	0	0
67	14	N8	0	0.1894	0	0	0	0
68	14	N1	-0.315	0.8318	0	0	0	0
69	14	Totals:	-0.315	2.1242	0			
70	14	COG (ft):	X: 15	Y: 10.4331	Z: 0			

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1	1	M3	I	-0.7776	0.0242	0	0	0	-0.1277
2			J	-0.7776	-0.0242	0	0	0	-0.1277
3	1	M4	I	1.7639	0.1362	0	0	0	0.1277
4			J	1.3014	-0.1376	0	0	0	0
5	1	M7	I	1.7639	0.1362	0	0	0	0.1277
6			J	1.3014	-0.1376	0	0	0	0
7	1	M9	I	0.3138	0.0927	0	0	0	0
8			J	0.3138	-0.0927	0	0	0	0
9	1	M10	I	0.3671	0.1941	0	0	0	0
10			J	0.3671	-0.1941	0	0	0	0
11	1	M6	I	0.948	0.0814	0	0	0	0
12			J	0.049	-0.0833	0	0	0	0.1153
13	1	M8	I	0.948	0.0814	0	0	0	0
14			J	0.049	-0.0833	0	0	0	0.1153
15	1	M11	I	-0.1189	0	0	0	0	0
16			J	-0.1189	0	0	0	0	0
17	1	M12	I	-0.1189	0	0	0	0	0
18			J	-0.1189	0	0	0	0	0
19	2	M3	I	-0.6496	-0.1001	0	0	0	-0.1443
20			J	-0.6493	0.1477	0	0	0	-0.1682
21	2	M4	I	1.429	0.0881	0	0	0	0.1443
22			J	0.9985	-0.1665	0	0	0	0
23	2	M7	I	1.4356	0.0915	0	0	0	0.1682
24			J	0.9984	-0.1671	0	0	0	0
25	2	M9	I	0.0016	0	0	0	0	0
26			J	0.0016	0	0	0	0	0
27	2	M10	I	0.6486	0.7765	0	0	0	0
28			J	0.6486	-0.7765	0	0	0	0
29	2	M6	I	0.0003	-0.0005	0	0	0	0
30			J	-0.0005	0.0009	0	0	0	-0.0026
31	2	M8	I	0.0003	-0.0005	0	0	0	0
32			J	-0.0005	0.0009	0	0	0	-0.0026
33	2	M11	I	-0.4992	0	0	0	0	0
34			J	-0.4992	0	0	0	0	0
35	2	M12	I	-0.5072	0	0	0	0	0
36			J	-0.5072	0	0	0	0	0
37	3	M3	I	-1.4271	-0.0749	0	0	0	-0.2726
38			J	-1.4268	0.1246	0	0	0	-0.2982
39	3	M4	I	3.1903	0.2248	0	0	0	0.2726
40			J	2.2999	-0.3053	0	0	0	0
41	3	M7	I	3.1994	0.2289	0	0	0	0.2982
42			J	2.2994	-0.3068	0	0	0	0
43	3	M9	I	0.3154	0.0927	0	0	0	0
44			J	0.3154	-0.0927	0	0	0	0
45	3	M10	I	1.0153	0.9706	0	0	0	0
46			J	1.0153	-0.9706	0	0	0	0
47	3	M6	I	0.9484	0.0809	0	0	0	0
48			J	0.0486	-0.0824	0	0	0	0.1127
49	3	M8	I	0.9481	0.0809	0	0	0	0
50			J	0.0484	-0.0825	0	0	0	0.1127

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
51	3	M11	I	-0.615	0	0	0	0	0
52			J	-0.615	0	0	0	0	0
53	3	M12	I	-0.6262	0	0	0	0	0
54			J	-0.6262	0	0	0	0	0
55	4	M3	I	-0.7776	0.0242	0	0	0	-0.1277
56			J	-0.7776	-0.0242	0	0	0	-0.1277
57	4	M4	I	1.7639	0.1362	0	0	0	0.1277
58			J	1.3014	-0.1376	0	0	0	0
59	4	M7	I	1.7639	0.1362	0	0	0	0.1277
60			J	1.3014	-0.1376	0	0	0	0
61	4	M9	I	0.3138	0.0927	0	0	0	0
62			J	0.3138	-0.0927	0	0	0	0
63	4	M10	I	0.3671	0.1941	0	0	0	0
64			J	0.3671	-0.1941	0	0	0	0
65	4	M6	I	0.948	0.0814	0	0	0	0
66			J	0.049	-0.0833	0	0	0	0.1153
67	4	M8	I	0.948	0.0814	0	0	0	0
68			J	0.049	-0.0833	0	0	0	0.1153
69	4	M11	I	-0.1189	0	0	0	0	0
70			J	-0.1189	0	0	0	0	0
71	4	M12	I	-0.1189	0	0	0	0	0
72			J	-0.1189	0	0	0	0	0
73	5	M3	I	-1.4271	-0.0749	0	0	0	-0.2726
74			J	-1.4268	0.1246	0	0	0	-0.2982
75	5	M4	I	3.1903	0.2248	0	0	0	0.2726
76			J	2.2999	-0.3053	0	0	0	0
77	5	M7	I	3.1994	0.2289	0	0	0	0.2982
78			J	2.2994	-0.3068	0	0	0	0
79	5	M9	I	0.3154	0.0927	0	0	0	0
80			J	0.3154	-0.0927	0	0	0	0
81	5	M10	I	1.0153	0.9706	0	0	0	0
82			J	1.0153	-0.9706	0	0	0	0
83	5	M6	I	0.9484	0.0809	0	0	0	0
84			J	0.0486	-0.0824	0	0	0	0.1127
85	5	M8	I	0.9481	0.0809	0	0	0	0
86			J	0.0484	-0.0825	0	0	0	0.1127
87	5	M11	I	-0.615	0	0	0	0	0
88			J	-0.615	0	0	0	0	0
89	5	M12	I	-0.6262	0	0	0	0	0
90			J	-0.6262	0	0	0	0	0
91	6	M3	I	-1.3257	0.0365	0	0	0	-0.2246
92			J	-1.3257	-0.0365	0	0	0	-0.2246
93	6	M4	I	3.0309	0.247	0	0	0	0.2246
94			J	2.2393	-0.2235	0	0	0	0
95	6	M7	I	3.0309	0.247	0	0	0	0.2246
96			J	2.2393	-0.2235	0	0	0	0
97	6	M9	I	0.5733	0.0927	0	0	0	0
98			J	0.5733	-0.0927	0	0	0	0
99	6	M10	I	0.5591	0.1941	0	0	0	0
100			J	0.5591	-0.1941	0	0	0	0
101	6	M6	I	1.7885	0.1628	0	0	0	0
102			J	0.0979	-0.1665	0	0	0	0.2295
103	6	M8	I	1.7885	0.1628	0	0	0	0
104			J	0.0979	-0.1665	0	0	0	0.2295
105	6	M11	I	-0.083	0	0	0	0	0
106			J	-0.083	0	0	0	0	0
107	6	M12	I	-0.083	0	0	0	0	0
108			J	-0.083	0	0	0	0	0

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
109	7	M3	I	-1.6757	-0.0405	0	0	0	-0.3092
110			J	-1.6755	0.0786	0	0	0	-0.3289
111	7	M4	I	3.7832	0.2859	0	0	0	0.3092
112			J	2.7537	-0.3281	0	0	0	0
113	7	M7	I	3.7908	0.2892	0	0	0	0.3289
114			J	2.7532	-0.3296	0	0	0	0
115	7	M9	I	0.5096	0.0927	0	0	0	0
116			J	0.5096	-0.0927	0	0	0	0
117	7	M10	I	0.9973	0.7765	0	0	0	0
118			J	0.9973	-0.7765	0	0	0	0
119	7	M6	I	1.5788	0.1421	0	0	0	0
120			J	0.0855	-0.145	0	0	0	0.199
121	7	M8	I	1.5784	0.1421	0	0	0	0
122			J	0.0852	-0.1451	0	0	0	0.199
123	7	M11	I	-0.4632	0	0	0	0	0
124			J	-0.4632	0	0	0	0	0
125	7	M12	I	-0.4727	0	0	0	0	0
126			J	-0.4727	0	0	0	0	0
127	8	M3	I	-1.0081	0.3239	0	0	0	0.0083
128			J	-1.0077	0.2813	0	0	0	-0.3425
129	8	M4	I	1.1364	0.1372	0	0	0	-0.0083
130			J	1.0993	-0.0812	0	0	0	0
131	8	M7	I	2.3444	0.204	0	0	0	0.3425
132			J	1.5336	-0.2471	0	0	0	0
133	8	M9	I	0.3889	0.0927	0	0	0	0
134			J	0.3889	-0.0927	0	0	0	0
135	8	M10	I	0.424	0.1941	0	0	0	0
136			J	0.424	-0.1941	0	0	0	0
137	8	M6	I	0.7163	0.1817	0	0	0	0
138			J	-0.0657	-0.1842	0	0	0	0.1489
139	8	M8	I	1.152	0.0284	0	0	0	0
140			J	0.1927	-0.0308	0	0	0	0.1489
141	8	M11	I	0.2752	0	0	0	0	0
142			J	0.2752	0	0	0	0	0
143	8	M12	I	-0.5091	0	0	0	0	0
144			J	-0.5091	0	0	0	0	0
145	9	M3	I	-1.8494	0.1958	0	0	0	-0.1974
146			J	-1.8475	0.3193	0	0	0	-0.5
147	9	M4	I	3.2994	0.2829	0	0	0	0.1974
148			J	2.6038	-0.2801	0	0	0	0
149	9	M7	I	4.2391	0.3438	0	0	0	0.5
150			J	2.9258	-0.4176	0	0	0	0
151	9	M9	I	0.566	0.0927	0	0	0	0
152			J	0.566	-0.0927	0	0	0	0
153	9	M10	I	1.0399	0.7765	0	0	0	0
154			J	1.0399	-0.7765	0	0	0	0
155	9	M6	I	1.4058	0.2174	0	0	0	0
156			J	-0.0002	-0.2208	0	0	0	0.2242
157	9	M8	I	1.7306	0.1022	0	0	0	0
158			J	0.1926	-0.1056	0	0	0	0.2242
159	9	M11	I	-0.1498	0	0	0	0	0
160			J	-0.1498	0	0	0	0	0
161	9	M12	I	-0.7826	0	0	0	0	0
162			J	-0.7826	0	0	0	0	0
163	10	M3	I	-1.4386	0.1796	0	0	0	-0.1299
164			J	-1.4365	0.3215	0	0	0	-0.421
165	10	M4	I	2.3576	0.2016	0	0	0	0.1299
166			J	1.8993	-0.2183	0	0	0	0

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
167	10	M7	I	3.2815	0.2582	0	0	0	0.421
168			J	2.2235	-0.3492	0	0	0	0
169	10	M9	I	0.3714	0.0927	0	0	0	0
170			J	0.3714	-0.0927	0	0	0	0
171	10	M10	I	0.896	0.7765	0	0	0	0
172			J	0.896	-0.7765	0	0	0	0
173	10	M6	I	0.7746	0.1562	0	0	0	0
174			J	-0.0373	-0.1583	0	0	0	0.1385
175	10	M8	I	1.1011	0.0413	0	0	0	0
176			J	0.1563	-0.0434	0	0	0	0.1385
177	10	M11	I	-0.1877	0	0	0	0	0
178			J	-0.1877	0	0	0	0	0
179	10	M12	I	-0.7997	0	0	0	0	0
180			J	-0.7997	0	0	0	0	0
181	11	M3	I	-0.6971	0.3088	0	0	0	0.055
182			J	-0.6969	0.2855	0	0	0	-0.2866
183	11	M4	I	0.4374	0.0843	0	0	0	-0.055
184			J	0.578	-0.0286	0	0	0	0
185	11	M7	I	1.6329	0.1476	0	0	0	0.2866
186			J	1.0138	-0.1891	0	0	0	0
187	11	M9	I	0.2634	0.0556	0	0	0	0
188			J	0.2634	-0.0556	0	0	0	0
189	11	M10	I	0.2772	0.1165	0	0	0	0
190			J	0.2772	-0.1165	0	0	0	0
191	11	M6	I	0.3366	0.149	0	0	0	0
192			J	-0.0855	-0.1507	0	0	0	0.1027
193	11	M8	I	0.7733	-0.004	0	0	0	0
194			J	0.1733	0.0024	0	0	0	0.1027
195	11	M11	I	0.3143	0	0	0	0	0
196			J	0.3143	0	0	0	0	0
197	11	M12	I	-0.4536	0	0	0	0	0
198			J	-0.4536	0	0	0	0	0
199	12	M3	I	-0.9328	0.3101	0	0	0	0.0876
200			J	-0.9324	0.2581	0	0	0	-0.3401
201	12	M4	I	1.3158	0.0612	0	0	0	-0.0876
202			J	1.1693	-0.0262	0	0	0	0
203	12	M7	I	2.2045	0.2101	0	0	0	0.3401
204			J	1.432	-0.2473	0	0	0	0
205	12	M9	I	0.3833	0.0927	0	0	0	0
206			J	0.3833	-0.0927	0	0	0	0
207	12	M10	I	0.4531	0.1941	0	0	0	0
208			J	0.4531	-0.1941	0	0	0	0
209	12	M6	I	0.8603	0.1105	0	0	0	0
210			J	-0.0038	-0.1153	0	0	0	0.1169
211	12	M8	I	1.0356	0.0526	0	0	0	0
212			J	0.1023	-0.0519	0	0	0	0.1169
213	12	M11	I	0.2472	0	0	0	0	0
214			J	0.2472	0	0	0	0	0
215	12	M12	I	-0.4793	0	0	0	0	0
216			J	-0.4793	0	0	0	0	0
217	13	M3	I	-1.382	0.1688	0	0	0	-0.0707
218			J	-1.38	0.3036	0	0	0	-0.4188
219	13	M4	I	2.4927	0.1448	0	0	0	0.0707
220			J	1.9518	-0.1771	0	0	0	0
221	13	M7	I	3.1762	0.2627	0	0	0	0.4188
222			J	2.1474	-0.3491	0	0	0	0
223	13	M9	I	0.3671	0.0927	0	0	0	0
224			J	0.3671	-0.0927	0	0	0	0

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
225	13	M10	I	0.9179	0.7765	0	0	0	0
226			J	0.9179	-0.7765	0	0	0	0
227	13	M6	I	0.8826	0.1028	0	0	0	0
228			J	0.0091	-0.1066	0	0	0	0.1146
229	13	M8	I	1.0138	0.0594	0	0	0	0
230			J	0.0885	-0.0591	0	0	0	0.1146
231	13	M11	I	-0.2095	0	0	0	0	0
232			J	-0.2095	0	0	0	0	0
233	13	M12	I	-0.7767	0	0	0	0	0
234			J	-0.7767	0	0	0	0	0
235	14	M3	I	-0.6217	0.2954	0	0	0	0.1346
236			J	-0.6215	0.2626	0	0	0	-0.2846
237	14	M4	I	0.6162	0.0083	0	0	0	-0.1346
238			J	0.648	0.0264	0	0	0	0
239	14	M7	I	1.4935	0.1539	0	0	0	0.2846
240			J	0.9123	-0.1895	0	0	0	0
241	14	M9	I	0.2578	0.0556	0	0	0	0
242			J	0.2578	-0.0556	0	0	0	0
243	14	M10	I	0.3064	0.1165	0	0	0	0
244			J	0.3064	-0.1165	0	0	0	0
245	14	M6	I	0.4805	0.0779	0	0	0	0
246			J	-0.0236	-0.0819	0	0	0	0.0708
247	14	M8	I	0.657	0.02	0	0	0	0
248			J	0.0829	-0.0186	0	0	0	0.0708
249	14	M11	I	0.2869	0	0	0	0	0
250			J	0.2869	0	0	0	0	0
251	14	M12	I	-0.4243	0	0	0	0	0
252			J	-0.4243	0	0	0	0	0

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N2	max	0	14	3.51	9	0	14	0	14	0	14	0	14
2		min	0	1	1.103	14	0	1	0	1	0	1	0	1
3	N8	max	0	14	1.3679	5	0	14	0	14	0	14	0	14
4		min	0	1	0.1894	14	0	1	0	1	0	1	0	1
5	N1	max	0	7	3.3657	7	0	14	0	14	0	14	0	14
6		min	-0.5467	8	0.7303	11	0	1	0	1	0	1	0	1
7	Totals:	max	0	7	7.8401	9	0	14						
8		min	-0.5467	8	2.1242	11	0	1						

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0	8	0	11	0	14	0	14	0	14	-8.4035e-4	4
2		min	0	7	0	7	0	1	0	1	0	1	-4.8486e-3	9
3	N2	max	0.0308	9	0	14	0	14	0	14	0	14	1.6016e-3	7
4		min	0.0104	14	0	9	0	1	0	1	0	1	-2.749e-3	11
5	N3	max	0.0224	9	-0.012	2	0	14	0	14	0	14	3.9155e-3	8
6		min	0.0054	2	-0.042	9	0	1	0	1	0	1	0	6
7	N4	max	0.382	8	-0.0152	4	0	14	0	14	0	14	1.6929e-4	2
8		min	0.0081	1	-0.2319	8	0	1	0	1	0	1	-9.5355e-4	6
9	N6	max	0.3783	8	0.2013	11	0	14	0	14	0	14	9.5355e-4	6
10		min	0.0049	1	-0.0257	6	0	1	0	1	0	1	9.9811e-5	2
11	N8	max	0.0154	9	0	14	0	14	0	14	0	14	2.6337e-3	8
12		min	0.0052	14	0	3	0	1	0	1	0	1	0	6
13	N14	max	0.3179	8	0.1632	11	0	14	0	14	0	14	1.8213e-3	11
14		min	0.0051	1	-0.0351	6	0	1	0	1	0	1	-2.683e-4	6
15	N15	max	0.3213	8	-0.0194	2	0	14	0	14	0	14	2.1553e-3	8

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
16		min	0.0079	1	-0.2	8	0	1	0	1	0	1	1.3569e-4	1
17	N9	max	0.2928	9	-0.027	4	0	14	0	14	0	14	7.4329e-4	7
18		min	0.0326	1	-0.187	9	0	1	0	1	0	1	-3.1942e-3	11
19	N10	max	0.2318	11	0.1221	11	0	14	0	14	0	14	-4.1153e-4	4
20		min	-0.0332	7	-0.0529	7	0	1	0	1	0	1	-4.077e-3	8
21	N11	max	0.0039	9	-0.0277	4	0	14	0	14	0	14	-4.2117e-4	4
22		min	0.0013	14	-0.1879	9	0	1	0	1	0	1	-3.1295e-3	9
23	N12	max	0.0269	9	0.1194	11	0	14	0	14	0	14	1.2317e-3	5
24		min	0.0091	14	-0.0558	7	0	1	0	1	0	1	-1.829e-3	11

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M3	1	max	-0.6217	14	0.3239	8	0	14	0	14	0	14	0.1346	14
2			min	-1.8494	9	-0.1001	2	0	1	0	1	0	1	-0.3092	7
3		2	max	-0.6226	14	0.0665	2	0	14	0	14	0	14	-0.1947	4
4			min	-1.8489	9	-0.0961	8	0	1	0	1	0	1	-1.183	9
5		3	max	-0.6226	14	0.1787	6	0	14	0	14	0	14	1.5932	5
6			min	-1.8489	9	-0.6903	3	0	1	0	1	0	1	0.253	14
7		4	max	-0.6226	14	0.0287	6	0	14	0	14	0	14	0.5008	11
8			min	-1.8489	9	-0.1155	10	0	1	0	1	0	1	-0.667	3
9		5	max	-0.6215	14	0.3215	10	0	14	0	14	0	14	-0.1277	4
10			min	-1.8475	9	-0.0365	6	0	1	0	1	0	1	-0.5	9
11	M4	1	max	3.7832	7	0.2859	7	0	14	0	14	0	14	0.3092	7
12			min	0.4374	11	0.0083	14	0	1	0	1	0	1	-0.1346	14
13		2	max	3.6257	7	0.1933	7	0	14	0	14	0	14	-0.0856	2
14			min	0.4047	11	-0.0235	14	0	1	0	1	0	1	-0.3848	9
15		3	max	3.4682	7	0.119	5	0	14	0	14	0	14	-0.012	14
16			min	0.372	11	-0.0552	14	0	1	0	1	0	1	-0.6998	7
17		4	max	2.9112	7	0.0582	14	0	14	0	14	0	14	0.1105	14
18			min	0.6107	11	-0.2523	3	0	1	0	1	0	1	-0.7356	7
19		5	max	2.7537	7	0.0264	14	0	14	0	14	0	14	0	14
20			min	0.578	11	-0.3281	7	0	1	0	1	0	1	0	1
21	M7	1	max	4.2391	9	0.3438	9	0	14	0	14	0	14	0.5	9
22			min	1.4356	2	0.0915	2	0	1	0	1	0	1	0.1277	1
23		2	max	4.0793	9	0.2552	9	0	14	0	14	0	14	-0.0644	11
24			min	1.4356	2	0.0833	1	0	1	0	1	0	1	-0.305	7
25		3	max	3.9194	9	0.1666	9	0	14	0	14	0	14	-0.3069	4
26			min	1.3855	14	0.0303	1	0	1	0	1	0	1	-0.8323	9
27		4	max	3.0856	9	-0.0846	4	0	14	0	14	0	14	-0.29	4
28			min	0.9663	14	-0.329	9	0	1	0	1	0	1	-0.9745	9
29		5	max	2.9258	9	-0.1376	4	0	14	0	14	0	14	0	14
30			min	0.9123	14	-0.4176	9	0	1	0	1	0	1	0	1
31	M9	1	max	0.5733	6	0.0927	13	0	14	0	14	0	14	0	14
32			min	0.0016	2	0	2	0	1	0	1	0	1	0	1
33		2	max	0.5733	6	0.0463	13	0	14	0	14	0	14	0	2
34			min	0.0016	2	0	2	0	1	0	1	0	1	-0.161	8
35		3	max	0.5733	6	0	14	0	14	0	14	0	14	0	2
36			min	0.0016	2	0	1	0	1	0	1	0	1	-0.2146	8
37		4	max	0.5733	6	0	2	0	14	0	14	0	14	0	2
38			min	0.0016	2	-0.0463	1	0	1	0	1	0	1	-0.161	8
39		5	max	0.5733	6	0	2	0	14	0	14	0	14	0	14
40			min	0.0016	2	-0.0927	1	0	1	0	1	0	1	0	1
41	M10	1	max	1.0399	9	0.9706	5	0	14	0	14	0	14	0	14
42			min	0.2772	11	0.1165	11	0	1	0	1	0	1	0	1
43		2	max	1.0399	9	0.4853	5	0	14	0	14	0	14	-0.4239	14
44			min	0.2772	11	0.0582	11	0	1	0	1	0	1	-3.5327	3
45		3	max	1.0399	9	0	14	0	14	0	14	0	14	-0.5652	14
46			min	0.2772	11	0	1	0	1	0	1	0	1	-4.7102	3

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
47		4	max	1.0399	9	-0.0582	14	0	14	0	14	0	14	-0.4239	14
48			min	0.2772	11	-0.4853	3	0	1	0	1	0	1	-3.5327	3
49		5	max	1.0399	9	-0.1165	14	0	14	0	14	0	14	0	14
50			min	0.2772	11	-0.9706	3	0	1	0	1	0	1	0	1
51	M6	1	max	1.7885	6	0.2174	9	0	14	0	14	0	14	0	14
52			min	0.0003	2	-0.0005	2	0	1	0	1	0	1	0	1
53		2	max	1.4585	6	0.0244	11	0	14	0	14	0	14	0.0026	2
54			min	0.0003	2	-0.0313	6	0	1	0	1	0	1	-0.5149	9
55		3	max	1.1285	6	-0.0005	2	0	14	0	14	0	14	0.2994	6
56			min	0.0003	2	-0.2254	6	0	1	0	1	0	1	-0.2335	11
57		4	max	0.4279	6	0.0276	6	0	14	0	14	0	14	0.0016	2
58			min	-0.0255	11	-0.0261	11	0	1	0	1	0	1	-0.3415	8
59		5	max	0.0979	6	0.0009	2	0	14	0	14	0	14	0.2295	6
60			min	-0.0855	11	-0.2208	9	0	1	0	1	0	1	-0.0026	2
61	M8	1	max	1.7885	6	0.1628	6	0	14	0	14	0	14	0	14
62			min	0.0003	2	-0.004	11	0	1	0	1	0	1	0	1
63		2	max	1.4585	6	-0.0005	2	0	14	0	14	0	14	0.1349	11
64			min	0.0003	2	-0.0602	9	0	1	0	1	0	1	-0.3148	6
65		3	max	1.1444	9	-0.0005	2	0	14	0	14	0	14	0.5765	9
66			min	0.0003	2	-0.2254	6	0	1	0	1	0	1	0.0051	2
67		4	max	0.4857	9	0.0569	9	0	14	0	14	0	14	0.2297	11
68			min	-0.0005	2	0.0009	2	0	1	0	1	0	1	-0.1029	6
69		5	max	0.1927	8	0.0024	11	0	14	0	14	0	14	0.2295	6
70			min	-0.0005	2	-0.1665	6	0	1	0	1	0	1	-0.0026	2
71	M11	1	max	0.3143	11	0	14	0	14	0	14	0	14	0	14
72			min	-0.615	3	0	1	0	1	0	1	0	1	0	1
73		2	max	0.3143	11	0	14	0	14	0	14	0	14	0	14
74			min	-0.615	3	0	1	0	1	0	1	0	1	0	1
75		3	max	0.3143	11	0	14	0	14	0	14	0	14	0	14
76			min	-0.615	3	0	1	0	1	0	1	0	1	0	1
77		4	max	0.3143	11	0	14	0	14	0	14	0	14	0	14
78			min	-0.615	3	0	1	0	1	0	1	0	1	0	1
79		5	max	0.3143	11	0	14	0	14	0	14	0	14	0	14
80			min	-0.615	3	0	1	0	1	0	1	0	1	0	1
81	M12	1	max	-0.083	6	0	14	0	14	0	14	0	14	0	14
82			min	-0.7997	10	0	1	0	1	0	1	0	1	0	1
83		2	max	-0.083	6	0	14	0	14	0	14	0	14	0	14
84			min	-0.7997	10	0	1	0	1	0	1	0	1	0	1
85		3	max	-0.083	6	0	14	0	14	0	14	0	14	0	14
86			min	-0.7997	10	0	1	0	1	0	1	0	1	0	1
87		4	max	-0.083	6	0	14	0	14	0	14	0	14	0	14
88			min	-0.7997	10	0	1	0	1	0	1	0	1	0	1
89		5	max	-0.083	6	0	14	0	14	0	14	0	14	0	14
90			min	-0.7997	10	0	1	0	1	0	1	0	1	0	1

	Member		Axial[k]	Loc[ft]	LC	y Shear[k]	Loc[ft]	LC	z Shear[k]	Loc[ft]	LC	Torque[k-ft]	Loc[ft]	LC	y-y Moment[k-ft]	Loc[ft]	LC	z-z Moment[k-ft]	Loc[ft]	LC
1	M3	max	-0.6215	30	14	0.6451	15.3125	5	0	30	14	0	30	14	0	30	14	1.5932	15	5
2		min	-1.8494	0	9	-0.6903	15	3	0	0	1	0	0	1	0	0	1	-1.1948	6.875	9
3	M4	max	3.7832	0	7	0.2859	0	7	0	10.4416	14	0	10.4416	14	0	10.4416	14	0.3092	0	7
4		min	0.3461	7.2874	11	-0.3281	10.4416	7	0	0	1	0	0	1	0	0	1	-0.8357	7.3962	3
5	M7	max	4.2391	0	9	0.3438	0	9	0	10.4416	14	0	10.4416	14	0	10.4416	14	0.5	0	9
6		min	0.9123	10.4416	14	-0.4176	10.4416	9	0	0	1	0	0	1	0	0	1	-1.1144	7.3962	9
7	M9	max	0.5733	9.2653	6	0.0927	0	13	0	9.2653	14	0	9.2653	14	0	9.2653	14	0	9.2653	14
8		min	0.0016	0	2	-0.0927	9.2653	1	0	0	1	0	0	1	0	0	1	-0.2146	4.6327	8
9	M10	max	1.0399	19.4118	9	0.9706	0	5	0	19.4118	14	0	19.4118	14	0	19.4118	14	0	19.4118	14
10		min	0.2772	0	11	-0.9706	19.4118	3	0	0	1	0	0	1	0	0	1	-4.7102	9.7059	3
11	M6	max	1.7885	0	6	0.2174	0	9	0	19.143	14	0	19.143	14	0	19.143	14	0.3926	9.9703	6

RISA A NEMETSCHEK COMPANY

Company : Meier A+E
Designer : TDK
Job Number : 8785
Model Name :

Checked By : _____

	Member		Axial[k]	Loc[ft]	LC	y Shear[k]	Loc[ft]	LC	z Shear[k]	Loc[ft]	LC	Torque[k-ft]	Loc[ft]	LC	y-y Moment[k-ft]	Loc[ft]	LC	z-z Moment[k-ft]	Loc[ft]	LC
12		min	-0.0855	19.143	11	-0.2416	9.9703	6	0	0	1	0	0	1	0	0	1	-0.5149	4.7857	9
13	M8	max	1.7885	0	6	0.199	10.1697	9	0	19.143	14	0	19.143	14	0	19.143	14	0.668	9.9703	9
14		min	-0.0005	10.1697	2	-0.2416	9.9703	6	0	0	1	0	0	1	0	0	1	-0.3268	3.9881	6
15	M11	max	0.3143	6.375	11	0	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14
16		min	-0.615	0	3	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1
17	M12	max	-0.083	6.375	6	0	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14
18		min	-0.7997	0	10	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M3	I	max	-0.6217	14	0.3239	8	0	14	0	14	0	14	0.1346	14
2			min	-1.8494	9	-0.1001	2	0	1	0	1	0	1	-0.3092	7
3		J	max	-0.6215	14	0.3215	10	0	14	0	14	0	14	-0.1277	4
4			min	-1.8475	9	-0.0365	6	0	1	0	1	0	1	-0.5	9
5	M4	I	max	3.7832	7	0.2859	7	0	14	0	14	0	14	0.3092	7
6			min	0.4374	11	0.0083	14	0	1	0	1	0	1	-0.1346	14
7		J	max	2.7537	7	0.0264	14	0	14	0	14	0	14	0	14
8			min	0.578	11	-0.3281	7	0	1	0	1	0	1	0	1
9	M7	I	max	4.2391	9	0.3438	9	0	14	0	14	0	14	0.5	9
10			min	1.4356	2	0.0915	2	0	1	0	1	0	1	0.1277	1
11		J	max	2.9258	9	-0.1376	4	0	14	0	14	0	14	0	14
12			min	0.9123	14	-0.4176	9	0	1	0	1	0	1	0	1
13	M9	I	max	0.5733	6	0.0927	13	0	14	0	14	0	14	0	14
14			min	0.0016	2	0	2	0	1	0	1	0	1	0	1
15		J	max	0.5733	6	0	2	0	14	0	14	0	14	0	14
16			min	0.0016	2	-0.0927	1	0	1	0	1	0	1	0	1
17	M10	I	max	1.0399	9	0.9706	5	0	14	0	14	0	14	0	14
18			min	0.2772	11	0.1165	11	0	1	0	1	0	1	0	1
19		J	max	1.0399	9	-0.1165	14	0	14	0	14	0	14	0	14
20			min	0.2772	11	-0.9706	3	0	1	0	1	0	1	0	1
21	M6	I	max	1.7885	6	0.2174	9	0	14	0	14	0	14	0	14
22			min	0.0003	2	-0.0005	2	0	1	0	1	0	1	0	1
23		J	max	0.0979	6	0.0009	2	0	14	0	14	0	14	0.2295	6
24			min	-0.0855	11	-0.2208	9	0	1	0	1	0	1	-0.0026	2
25	M8	I	max	1.7885	6	0.1628	6	0	14	0	14	0	14	0	14
26			min	0.0003	2	-0.004	11	0	1	0	1	0	1	0	1
27		J	max	0.1927	8	0.0024	11	0	14	0	14	0	14	0.2295	6
28			min	-0.0005	2	-0.1665	6	0	1	0	1	0	1	-0.0026	2
29	M11	I	max	0.3143	11	0	14	0	14	0	14	0	14	0	14
30			min	-0.615	3	0	1	0	1	0	1	0	1	0	1
31		J	max	0.3143	11	0	14	0	14	0	14	0	14	0	14
32			min	-0.615	3	0	1	0	1	0	1	0	1	0	1
33	M12	I	max	-0.083	6	0	14	0	14	0	14	0	14	0	14
34			min	-0.7997	10	0	1	0	1	0	1	0	1	0	1
35		J	max	-0.083	6	0	14	0	14	0	14	0	14	0	14
36			min	-0.7997	10	0	1	0	1	0	1	0	1	0	1

	Member	Sec		Torque[k-ft]	LC	Torsion Shear[ksi]	LC	y-y Warp Shear[ksi]	z-z Warp Shear[ksi]	z-Top Warp Bend[ksi]	z-Bot Warp Bend[ksi]
1	M3	1	max	0	14	0	14	NC	NC	NC	NC
2			min	0	1	0	1	NC	NC	NC	NC
3		2	max	0	14	0	14	NC	NC	NC	NC
4			min	0	1	0	1	NC	NC	NC	NC
5		3	max	0	14	0	14	NC	NC	NC	NC
6			min	0	1	0	1	NC	NC	NC	NC
7		4	max	0	14	0	14	NC	NC	NC	NC
8			min	0	1	0	1	NC	NC	NC	NC

	Member	Sec		Torque[k-ft]	LC	Torsion Shear[ksi]	LC	y-y Warp Shear[ksi]	z-z Warp Shear[ksi]	z-Top Warp Bend[ksi]	z-Bot Warp Bend[ksi]
9		5	max	0	14	0	14	NC	NC	NC	NC
10			min	0	1	0	1	NC	NC	NC	NC
11	M4	1	max	0	14	0	14	NC	NC	NC	NC
12			min	0	1	0	1	NC	NC	NC	NC
13		2	max	0	14	0	14	NC	NC	NC	NC
14			min	0	1	0	1	NC	NC	NC	NC
15		3	max	0	14	0	14	NC	NC	NC	NC
16			min	0	1	0	1	NC	NC	NC	NC
17		4	max	0	14	0	14	NC	NC	NC	NC
18			min	0	1	0	1	NC	NC	NC	NC
19		5	max	0	14	0	14	NC	NC	NC	NC
20			min	0	1	0	1	NC	NC	NC	NC
21	M7	1	max	0	14	0	14	NC	NC	NC	NC
22			min	0	1	0	1	NC	NC	NC	NC
23		2	max	0	14	0	14	NC	NC	NC	NC
24			min	0	1	0	1	NC	NC	NC	NC
25		3	max	0	14	0	14	NC	NC	NC	NC
26			min	0	1	0	1	NC	NC	NC	NC
27		4	max	0	14	0	14	NC	NC	NC	NC
28			min	0	1	0	1	NC	NC	NC	NC
29		5	max	0	14	0	14	NC	NC	NC	NC
30			min	0	1	0	1	NC	NC	NC	NC
31	M9	1	max	0	14	0	14	NC	NC	NC	NC
32			min	0	1	0	1	NC	NC	NC	NC
33		2	max	0	14	0	14	NC	NC	NC	NC
34			min	0	1	0	1	NC	NC	NC	NC
35		3	max	0	14	0	14	NC	NC	NC	NC
36			min	0	1	0	1	NC	NC	NC	NC
37		4	max	0	14	0	14	NC	NC	NC	NC
38			min	0	1	0	1	NC	NC	NC	NC
39		5	max	0	14	0	14	NC	NC	NC	NC
40			min	0	1	0	1	NC	NC	NC	NC
41	M10	1	max	0	14	0	14	NC	NC	NC	NC
42			min	0	1	0	1	NC	NC	NC	NC
43		2	max	0	14	0	14	NC	NC	NC	NC
44			min	0	1	0	1	NC	NC	NC	NC
45		3	max	0	14	0	14	NC	NC	NC	NC
46			min	0	1	0	1	NC	NC	NC	NC
47		4	max	0	14	0	14	NC	NC	NC	NC
48			min	0	1	0	1	NC	NC	NC	NC
49		5	max	0	14	0	14	NC	NC	NC	NC
50			min	0	1	0	1	NC	NC	NC	NC
51	M6	1	max	0	14	0	14	NC	NC	NC	NC
52			min	0	1	0	1	NC	NC	NC	NC
53		2	max	0	14	0	14	NC	NC	NC	NC
54			min	0	1	0	1	NC	NC	NC	NC
55		3	max	0	14	0	14	NC	NC	NC	NC
56			min	0	1	0	1	NC	NC	NC	NC
57		4	max	0	14	0	14	NC	NC	NC	NC
58			min	0	1	0	1	NC	NC	NC	NC
59		5	max	0	14	0	14	NC	NC	NC	NC
60			min	0	1	0	1	NC	NC	NC	NC
61	M8	1	max	0	14	0	14	NC	NC	NC	NC
62			min	0	1	0	1	NC	NC	NC	NC
63		2	max	0	14	0	14	NC	NC	NC	NC
64			min	0	1	0	1	NC	NC	NC	NC
65		3	max	0	14	0	14	NC	NC	NC	NC
66			min	0	1	0	1	NC	NC	NC	NC

	Member	Sec		Torque[k-ft]	LC	Torsion Shear[ksi]	LC	y-y Warp Shear[ksi]	z-z Warp Shear[ksi]	z-Top Warp Bend[ksi]	z-Bot Warp Bend[ksi]
67		4	max	0	14	0	14	NC	NC	NC	NC
68			min	0	1	0	1	NC	NC	NC	NC
69		5	max	0	14	0	14	NC	NC	NC	NC
70			min	0	1	0	1	NC	NC	NC	NC
71	M11	1	max	0	14	0	14	NC	NC	NC	NC
72			min	0	1	0	1	NC	NC	NC	NC
73		2	max	0	14	0	14	NC	NC	NC	NC
74			min	0	1	0	1	NC	NC	NC	NC
75		3	max	0	14	0	14	NC	NC	NC	NC
76			min	0	1	0	1	NC	NC	NC	NC
77		4	max	0	14	0	14	NC	NC	NC	NC
78			min	0	1	0	1	NC	NC	NC	NC
79		5	max	0	14	0	14	NC	NC	NC	NC
80			min	0	1	0	1	NC	NC	NC	NC
81	M12	1	max	0	14	0	14	NC	NC	NC	NC
82			min	0	1	0	1	NC	NC	NC	NC
83		2	max	0	14	0	14	NC	NC	NC	NC
84			min	0	1	0	1	NC	NC	NC	NC
85		3	max	0	14	0	14	NC	NC	NC	NC
86			min	0	1	0	1	NC	NC	NC	NC
87		4	max	0	14	0	14	NC	NC	NC	NC
88			min	0	1	0	1	NC	NC	NC	NC
89		5	max	0	14	0	14	NC	NC	NC	NC
90			min	0	1	0	1	NC	NC	NC	NC

	Member	Sec		Axial[ksi]	LC	y Shear[ksi]	LC	z Shear[ksi]	LC	y-Top[ksi]	LC	y-Bot[ksi]	LC	z-Top[ksi]	LC	z-Bot[ksi]	LC
1	M3	1	max	-0.0374	14	0.0292	8	0	14	0.1409	7	0.0613	14	0	14	0	14
2			min	-0.1112	9	-0.009	2	0	1	-0.0613	14	-0.1409	7	0	1	0	1
3		2	max	-0.0375	14	0.006	2	0	14	0.5393	9	-0.0888	4	0	14	0	14
4			min	-0.1112	9	-0.0087	8	0	1	0.0888	1	-0.5393	9	0	1	0	1
5		3	max	-0.0375	14	0.0161	6	0	14	-0.1153	14	0.7263	5	0	14	0	14
6			min	-0.1112	9	-0.0623	3	0	1	-0.7263	3	0.1153	14	0	1	0	1
7		4	max	-0.0375	14	0.0026	6	0	14	0.3041	5	0.2283	11	0	14	0	14
8			min	-0.1112	9	-0.0104	10	0	1	-0.2283	11	-0.3041	3	0	1	0	1
9		5	max	-0.0374	14	0.029	10	0	14	0.2279	9	-0.0582	4	0	14	0	14
10			min	-0.1111	9	-0.0033	6	0	1	0.0582	1	-0.2279	9	0	1	0	1
11	M4	1	max	0.2276	7	0.0258	7	0	14	0.0613	14	0.1409	7	0	14	0	14
12			min	0.0263	11	0.0007	14	0	1	-0.1409	7	-0.0613	14	0	1	0	1
13		2	max	0.2181	7	0.0174	7	0	14	0.1754	9	-0.039	2	0	14	0	14
14			min	0.0243	11	-0.0021	14	0	1	0.039	2	-0.1754	9	0	1	0	1
15		3	max	0.2086	7	0.0107	5	0	14	0.319	7	-0.0055	14	0	14	0	14
16			min	0.0224	11	-0.005	14	0	1	0.0055	14	-0.319	7	0	1	0	1
17		4	max	0.1751	7	0.0053	14	0	14	0.3354	7	0.0504	14	0	14	0	14
18			min	0.0367	11	-0.0228	3	0	1	-0.0504	14	-0.3354	7	0	1	0	1
19		5	max	0.1656	7	0.0024	14	0	14	0	14	0	14	0	14	0	14
20			min	0.0348	11	-0.0296	7	0	1	0	1	0	1	0	1	0	1
21	M7	1	max	0.255	9	0.031	9	0	14	-0.0582	4	0.2279	9	0	14	0	14
22			min	0.0864	2	0.0083	2	0	1	-0.2279	9	0.0582	1	0	1	0	1
23		2	max	0.2454	9	0.023	9	0	14	0.139	7	-0.0294	11	0	14	0	14
24			min	0.0864	2	0.0075	1	0	1	0.0294	11	-0.139	7	0	1	0	1
25		3	max	0.2358	9	0.015	9	0	14	0.3794	9	-0.1399	4	0	14	0	14
26			min	0.0833	14	0.0027	1	0	1	0.1399	1	-0.3794	9	0	1	0	1
27		4	max	0.1856	9	-0.0076	4	0	14	0.4443	9	-0.1322	4	0	14	0	14
28			min	0.0581	14	-0.0297	9	0	1	0.1322	1	-0.4443	9	0	1	0	1
29		5	max	0.176	9	-0.0124	4	0	14	0	14	0	14	0	14	0	14
30			min	0.0549	14	-0.0377	9	0	1	0	1	0	1	0	1	0	1
31	M9	1	max	0.0596	6	0.0144	13	0	14	0	14	0	14	0	14	0	14

	Member	Sec		Axial[ksi]	LC	y Shear[ksi]	LC	z Shear[ksi]	LC	y-Top[ksi]	LC	y-Bot[ksi]	LC	z-Top[ksi]	LC	z-Bot[ksi]	LC
32			min	0.0002	2	0	2	0	1	0	1	0	1	0	1	0	1
33		2	max	0.0596	6	0.0072	13	0	14	0.2189	13	0	2	0	14	0	14
34			min	0.0002	2	0	2	0	1	0	2	-0.2189	8	0	1	0	1
35		3	max	0.0596	6	0	14	0	14	0.2919	13	0	2	0	14	0	14
36			min	0.0002	2	0	1	0	1	0	2	-0.2919	8	0	1	0	1
37		4	max	0.0596	6	0	2	0	14	0.2189	13	0	2	0	14	0	14
38			min	0.0002	2	-0.0072	1	0	1	0	2	-0.2189	8	0	1	0	1
39		5	max	0.0596	6	0	2	0	14	0	14	0	14	0	14	0	14
40			min	0.0002	2	-0.0144	1	0	1	0	1	0	1	0	1	0	1
41	M10	1	max	0.05	9	0.0701	5	0	14	0	14	0	14	0	14	0	14
42			min	0.0133	11	0.0084	11	0	1	0	1	0	1	0	1	0	1
43		2	max	0.05	9	0.035	5	0	14	1.0307	5	-0.1237	14	0	14	0	14
44			min	0.0133	11	0.0042	11	0	1	0.1237	11	-1.0307	3	0	1	0	1
45		3	max	0.05	9	0	14	0	14	1.3743	5	-0.1649	14	0	14	0	14
46			min	0.0133	11	0	1	0	1	0.1649	11	-1.3743	3	0	1	0	1
47		4	max	0.05	9	-0.0042	14	0	14	1.0307	5	-0.1237	14	0	14	0	14
48			min	0.0133	11	-0.035	3	0	1	0.1237	11	-1.0307	3	0	1	0	1
49		5	max	0.05	9	-0.0084	14	0	14	0	14	0	14	0	14	0	14
50			min	0.0133	11	-0.0701	3	0	1	0	1	0	1	0	1	0	1
51	M6	1	max	0.1076	6	0.0196	9	0	14	0	14	0	14	0	14	0	14
52			min	0	2	0	2	0	1	0	1	0	1	0	1	0	1
53		2	max	0.0877	6	0.0022	11	0	14	0.2347	9	0.0012	2	0	14	0	14
54			min	0	2	-0.0028	6	0	1	-0.0012	2	-0.2347	9	0	1	0	1
55		3	max	0.0679	6	0	2	0	14	0.1064	11	0.1365	6	0	14	0	14
56			min	0	2	-0.0203	6	0	1	-0.1365	6	-0.1064	11	0	1	0	1
57		4	max	0.0257	6	0.0025	6	0	14	0.1557	8	0.0007	2	0	14	0	14
58			min	-0.0015	11	-0.0024	11	0	1	-0.0007	2	-0.1557	8	0	1	0	1
59		5	max	0.0059	6	0	2	0	14	0.0012	2	0.1046	6	0	14	0	14
60			min	-0.0051	11	-0.0199	9	0	1	-0.1046	6	-0.0012	2	0	1	0	1
61	M8	1	max	0.1076	6	0.0147	6	0	14	0	14	0	14	0	14	0	14
62			min	0	2	-0.0004	11	0	1	0	1	0	1	0	1	0	1
63		2	max	0.0877	6	0	2	0	14	0.1435	6	0.0615	11	0	14	0	14
64			min	0	2	-0.0054	9	0	1	-0.0615	11	-0.1435	6	0	1	0	1
65		3	max	0.0688	9	0	2	0	14	-0.0023	2	0.2628	9	0	14	0	14
66			min	0	2	-0.0203	6	0	1	-0.2628	9	0.0023	2	0	1	0	1
67		4	max	0.0292	9	0.0051	9	0	14	0.0469	6	0.1047	11	0	14	0	14
68			min	0	2	0	2	0	1	-0.1047	11	-0.0469	6	0	1	0	1
69		5	max	0.0116	8	0.0002	11	0	14	0.0012	2	0.1046	6	0	14	0	14
70			min	0	2	-0.015	6	0	1	-0.1046	6	-0.0012	2	0	1	0	1
71	M11	1	max	0.0326	11	0	14	0	14	0	14	0	14	0	14	0	14
72			min	-0.0639	3	0	1	0	1	0	1	0	1	0	1	0	1
73		2	max	0.0326	11	0	14	0	14	0	14	0	14	0	14	0	14
74			min	-0.0639	3	0	1	0	1	0	1	0	1	0	1	0	1
75		3	max	0.0326	11	0	14	0	14	0	14	0	14	0	14	0	14
76			min	-0.0639	3	0	1	0	1	0	1	0	1	0	1	0	1
77		4	max	0.0326	11	0	14	0	14	0	14	0	14	0	14	0	14
78			min	-0.0639	3	0	1	0	1	0	1	0	1	0	1	0	1
79		5	max	0.0326	11	0	14	0	14	0	14	0	14	0	14	0	14
80			min	-0.0639	3	0	1	0	1	0	1	0	1	0	1	0	1
81	M12	1	max	-0.0086	6	0	14	0	14	0	14	0	14	0	14	0	14
82			min	-0.0831	10	0	1	0	1	0	1	0	1	0	1	0	1
83		2	max	-0.0086	6	0	14	0	14	0	14	0	14	0	14	0	14
84			min	-0.0831	10	0	1	0	1	0	1	0	1	0	1	0	1
85		3	max	-0.0086	6	0	14	0	14	0	14	0	14	0	14	0	14
86			min	-0.0831	10	0	1	0	1	0	1	0	1	0	1	0	1
87		4	max	-0.0086	6	0	14	0	14	0	14	0	14	0	14	0	14
88			min	-0.0831	10	0	1	0	1	0	1	0	1	0	1	0	1
89		5	max	-0.0086	6	0	14	0	14	0	14	0	14	0	14	0	14

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	Member	Sec		Axial[ksi]	LC	y Shear[ksi]	LC	z Shear[ksi]	LC	y-Top[ksi]	LC	y-Bot[ksi]	LC	z-Top[ksi]	LC	z-Bot[ksi]	LC
90			min	-0.0831	10	0	1	0	1	0	1	0	1	0	1	0	1

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	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
1	M3	1	max	2.8125	0.001	NC	2
2		1	min	2.1875	-0.0107	4214	8
3		2	max	13.75	0.0011	NC	6
4		2	min	8.4375	-0.1314	1027	9
5		3	max	16.25	0.0011	NC	6
6		3	min	21.25	0.0703	1920	11
7		4	max	29.0625	-0.001	NC	5
8		4	min	27.5	0.0056	8015	11
9	M4	1	max	0.2175	-0.001	NC	4
10		1	min	4.2419	-0.034	2608	7
11		2	max	9.6803	-0.0011	NC	14
12		2	min	10.4416	0.1047	697	7
13	M7	1	max	0.2175	-0.001	NC	4
14		1	min	4.5682	-0.0399	2225	9
15		2	max	7.6137	0.0011	NC	12
16		2	min	10.4416	0.1285	568	9
17	M9	1	max	9.1688	-0.0021	NC	11
18		1	min	4.6327	-0.1051	1057	8
19	M10	1	max	0.2022	-0.004	NC	14
20		1	min	9.7059	-1.0063	231	3
21	M6	1	max	14.1578	0.001	NC	2
22		1	min	8.3751	-0.1551	1481	8
23	M8	1	max	14.1578	0.001	NC	2
24		1	min	9.9703	0.1479	1553	11

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	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Fc' [ksi]	Ft' [ksi]	Fb1' [ksi]	Fb2' [ksi]	Fv' [ksi]	RB	CL	CP	Eqn
1	M3	1.75X9.5FS	0.3676	15	5	0.3114	15	y	5	1.4093	1.5	2.2619	2.34	0.2	12.2024	0.9666	0.7227	3.9-1
2	M4	1.75X9.5FS	0.2096	0	7	0.1377	10.4416	y	5	1.0857	1.875	2.7842	2.925	0.2	12.2024	0.9519	0.4454	3.6.3
3	M7	1.75X9.5FS	0.2294	0	9	0.1384	10.4416	y	5	1.1114	2.4	3.4568	3.744	0.2	12.2024	0.9233	0.3562	3.6.3
4	M9	1.75X5.5FS	0.1433	4.6327	4	0.0802	9.2653	y	4	0.7036	1.35	2.0772	2.106	0.18	9.2846	0.9863	0.4009	3.9-3
5	M10	1.75X11.875FS	0.6226	9.7059	5	0.3503	19.4118	y	5	0.71	1.5	2.2274	2.34	0.2	13.6427	0.9519	0.3641	3.9-3
6	M6	1.75X9.5FS	0.3834	0	6	0.0872	9.9703	y	6	0.2806	1.875	2.7924	2.8125	0.25	6.1012	0.9928	0.1151	3.6.3
7	M8	1.75X9.5FS	0.0929	9.9703	9	0.0872	9.9703	y	6	1.6062	2.4	3.3448	3.6	0.25	12.2024	0.9291	0.5148	3.9-3
8	M11	1.75X5.5FS	0.1116	6.375	11	0	6.375	z	14	0.2925	2.4	3.3817	3.6	0.32	11.7213	0.9394	0.0938	3.6.3
9	M12	1.75X5.5FS	0.0434	6.375	5	0	6.375	z	14	0.2904	1.5	2.1873	2.25	0.32	11.7213	0.9721	0.1489	3.9-1

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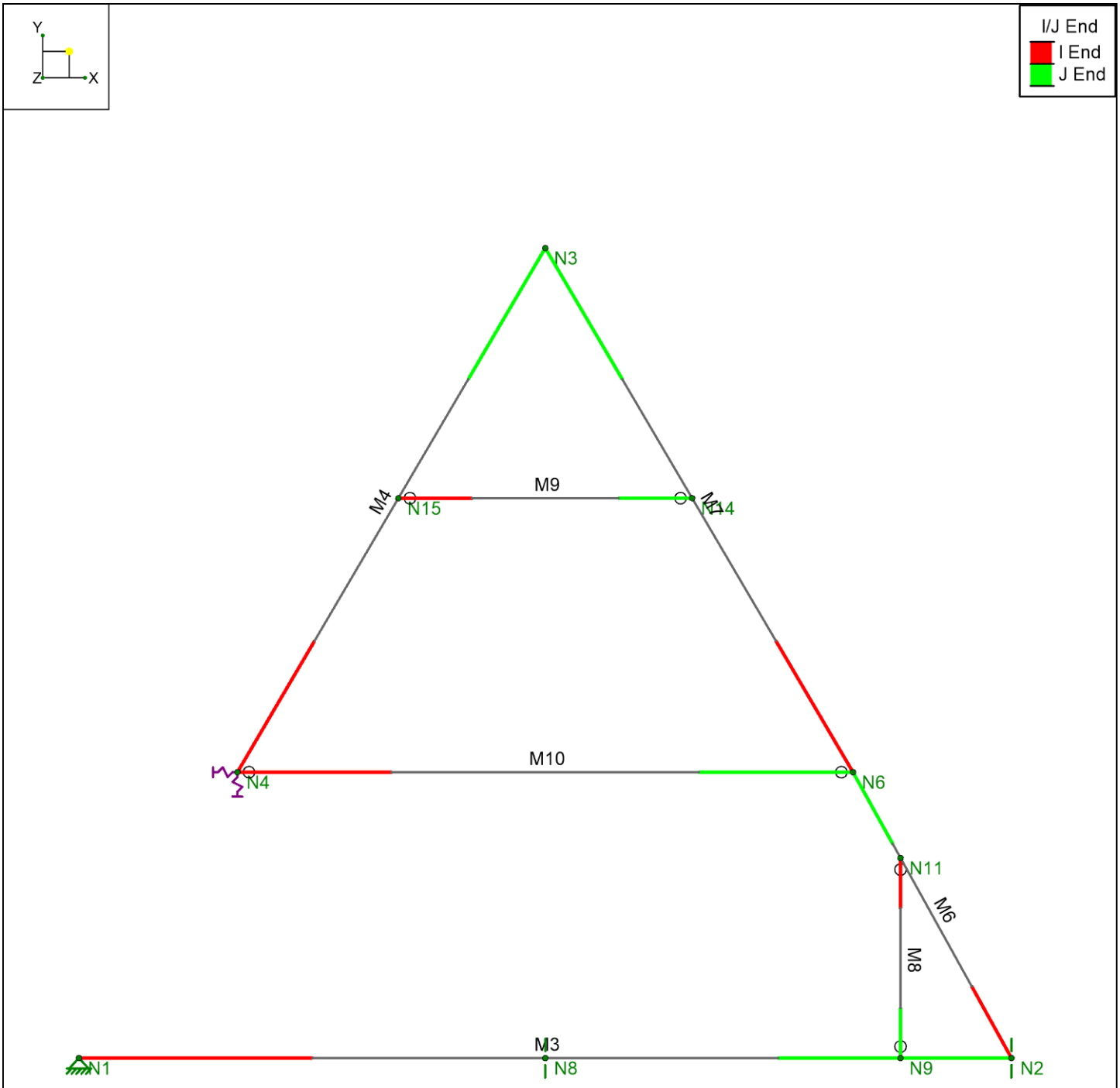

Meier A+E		SK-2
TDK		Oct 19, 2021
8785		Truss 2 20psf LL 100mphExpC W…

Company : Meier A+E
Designer : TDK
Job Number : 8785
Model Name :

Checked By : _____

1

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	0	0	0	
2	N2	29.3333	0	0	
3	N3	14.67	25.5	0	
4	N4	4.986627	9	0	
5	N6	24.348384	9	0	
6	N8	14.67	0	0	
7	N14	19.288867	17.625618	0	
8	N15	10.048085	17.624479	0	
9	N9	25.843859	0	0	
10	N11	25.843859	6.3	0	

1 1

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	N4	S15	S15	Reaction
2	N2		Reaction	
3	N8		Reaction	Reaction
4	N1	Reaction	Reaction	Reaction

1 1 1 1 1 1 11

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N15	L	X	0.2
2	N4	L	X	0.25

1 1

No Data to Print...

1 1 1 1 11 1

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	Y	0.04	0.04	0	%100
2	M4	Y	-0.04	-0.04	0	%100
3	M4	Y	-0.04	-0.04	0	%100
4	M6	Y	-0.04	-0.04	0	%100
5	M7	Y	-0.04	-0.04	0	%100
6	M10	Y	-0.02	-0.02	0	%100
7	M3	Y	-0.02	-0.02	0	%100
8	M9	Y	-0.02	-0.02	0	%100

1 1 1 1 11 1 1

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	Y	-0.04	-0.04	0	%100
2	M6	Y	-0.04	-0.04	0	%100
3	M7	Y	-0.04	-0.04	0	%100

1 1 1 1 11 1

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M10	Y	-0.08	-0.08	0	%100
2	M3	Y	-0.08	-0.08	3.33	26

1 1 1 1 11 1

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	X	0.027	0.027	0	%100
2	M7	X	0.004	0.004	0	%100
3	M6	X	0.004	0.004	0	%100

	BLC Description	Category	Nodal	Distributed
1	Dead load	DL		8
2	Roof Live Load	RLL		3
3	Live load	LL		2
4	Wind load	WL		3
5	Seismic	EL	2	

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Deflection 1	Yes	Y	DL	1								
2	Deflection 2	Yes	Y	LL	1								
3	Deflection 3	Yes	Y	DL	1	LL	1						
4	IBC 16-8	Yes	Y	DL	1								
5	IBC 16-9	Yes	Y	DL	1	LL	1	LLS	1				
6	IBC 16-10 (a)	Yes	Y	DL	1	RLL	1						
7	IBC 16-11 (a)	Yes	Y	DL	1	LL	0.75	LLS	0.75	RLL	0.75		
8	IBC 16-12 (a)	Yes	Y	DL	1	WL	0.6						
9	IBC 16-13 (a)	Yes	Y	DL	1	WL	0.45	LL	0.75	LLS	0.75	RLL	0.75
10	IBC 16-13 (b)	Yes	Y	DL	1	WL	0.45	LL	0.75	LLS	0.75		
11	IBC 16-15	Yes	Y	DL	0.6	WL	0.6						
12	IBC 16-12 (b)	Yes	Y	DL	1	EL	0.7						
13	IBC 16-14	Yes	Y	DL	1	EL	0.525	LL	0.75	LLS	0.75		
14	IBC 16-16	Yes	Y	DL	0.6	EL	0.7						

	Description	CD	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	Deflection 1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Deflection 2		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Deflection 3		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	IBC 16-8	0.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	IBC 16-9		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	IBC 16-10 (a)	1.25	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	IBC 16-11 (a)	1.25	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	IBC 16-12 (a)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	IBC 16-13 (a)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	IBC 16-13 (b)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	IBC 16-15	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	IBC 16-12 (b)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	IBC 16-14	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	IBC 16-16	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N4	0.7138	1.0484	0	0	0	0
2	1	N2	0	1.5824	0	0	0	0
3	1	N8	0	0.3584	0	0	0	0
4	1	N1	-0.7138	0.1114	0	0	0	0
5	1	Totals:	0	3.1007	0			
6	1	COG (ft):	X: 16.2835	Y: 11.286	Z: 0			
7	2	N4	0.5631	0.7745	0	0	0	0
8	2	N2	0	1.0942	0	0	0	0
9	2	N8	0	1.2556	0	0	0	0
10	2	N1	-0.5631	0.2383	0	0	0	0
11	2	Totals:	0	3.3625	0			
12	2	COG (ft):	X: 14.6662	Y: 4.1458	Z: 0			
13	3	N4	1.2778	1.8231	0	0	0	0
14	3	N2	0	2.6761	0	0	0	0
15	3	N8	0	1.6144	0	0	0	0

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
16	3	N1	-1.2778	0.3497	0	0	0	0
17	3	Totals:	0	6.4632	0			
18	3	COG (ft):	X: 15.4421	Y: 7.5713	Z: 0			
19	4	N4	0.7138	1.0484	0	0	0	0
20	4	N2	0	1.5824	0	0	0	0
21	4	N8	0	0.3584	0	0	0	0
22	4	N1	-0.7138	0.1114	0	0	0	0
23	4	Totals:	0	3.1007	0			
24	4	COG (ft):	X: 16.2835	Y: 11.286	Z: 0			
25	5	N4	1.2778	1.8231	0	0	0	0
26	5	N2	0	2.6761	0	0	0	0
27	5	N8	0	1.6144	0	0	0	0
28	5	N1	-1.2778	0.3497	0	0	0	0
29	5	Totals:	0	6.4632	0			
30	5	COG (ft):	X: 15.4421	Y: 7.5713	Z: 0			
31	6	N4	1.2297	1.8111	0	0	0	0
32	6	N2	0	2.7379	0	0	0	0
33	6	N8	0	0.3866	0	0	0	0
34	6	N1	-1.2297	0.107	0	0	0	0
35	6	Totals:	0	5.0426	0			
36	6	COG (ft):	X: 16.655	Y: 12.5423	Z: 0			
37	7	N4	1.524	2.2015	0	0	0	0
38	7	N2	0	3.2692	0	0	0	0
39	7	N8	0	1.3216	0	0	0	0
40	7	N1	-1.524	0.2868	0	0	0	0
41	7	Totals:	0	7.079	0			
42	7	COG (ft):	X: 15.9058	Y: 9.4135	Z: 0			
43	8	N4	0.4033	0.9084	0	0	0	0
44	8	N2	0	1.7267	0	0	0	0
45	8	N8	0	0.3533	0	0	0	0
46	8	N1	-0.7838	0.1122	0	0	0	0
47	8	Totals:	-0.3805	3.1007	0			
48	8	COG (ft):	X: 16.2835	Y: 11.286	Z: 0			
49	9	N4	1.291	2.0963	0	0	0	0
50	9	N2	0	3.3775	0	0	0	0
51	9	N8	0	1.3178	0	0	0	0
52	9	N1	-1.5764	0.2874	0	0	0	0
53	9	Totals:	-0.2854	7.079	0			
54	9	COG (ft):	X: 15.9058	Y: 9.4135	Z: 0			
55	10	N4	0.9039	1.5243	0	0	0	0
56	10	N2	0	2.5109	0	0	0	0
57	10	N8	0	1.2966	0	0	0	0
58	10	N1	-1.1893	0.2907	0	0	0	0
59	10	Totals:	-0.2854	5.6226	0			
60	10	COG (ft):	X: 15.5581	Y: 8.0834	Z: 0			
61	11	N4	0.1178	0.489	0	0	0	0
62	11	N2	0	1.0938	0	0	0	0
63	11	N8	0	0.2099	0	0	0	0
64	11	N1	-0.4983	0.0677	0	0	0	0
65	11	Totals:	-0.3805	1.8604	0			
66	11	COG (ft):	X: 16.2835	Y: 11.286	Z: 0			
67	12	N4	0.4251	0.9915	0	0	0	0
68	12	N2	0	1.6445	0	0	0	0
69	12	N8	0	0.3522	0	0	0	0
70	12	N1	-0.7401	0.1124	0	0	0	0
71	12	Totals:	-0.315	3.1007	0			
72	12	COG (ft):	X: 16.2835	Y: 11.286	Z: 0			
73	13	N4	0.9202	1.5867	0	0	0	0

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
74	13	N2	0	2.4493	0	0	0	0
75	13	N8	0	1.2957	0	0	0	0
76	13	N1	-1.1564	0.2909	0	0	0	0
77	13	Totals:	-0.2363	5.6226	0			
78	13	COG (ft):	X: 15.5581	Y: 8.0834	Z: 0			
79	14	N4	0.1395	0.5722	0	0	0	0
80	14	N2	0	1.0116	0	0	0	0
81	14	N8	0	0.2088	0	0	0	0
82	14	N1	-0.4545	0.0678	0	0	0	0
83	14	Totals:	-0.315	1.8604	0			
84	14	COG (ft):	X: 16.2835	Y: 11.286	Z: 0			

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1	1	M3	I	-0.7138	0.1114	0	0	0	0
2			J	-0.7138	-0.0919	0	0	0	-0.0048
3	1	M4	I	0.9418	0.084	0	0	0	0
4			J	0.0479	-0.0874	0	0	0	0.1257
5	1	M6	I	1.6491	0.0985	0	0	0	0.0048
6			J	1.2679	-0.1134	0	0	0	0.0553
7	1	M7	I	0.9467	0.0868	0	0	0	0.0553
8			J	0.0529	-0.0843	0	0	0	0.1257
9	1	M9	I	0.3046	0.0924	0	0	0	0
10			J	0.3046	-0.0924	0	0	0	0
11	1	M10	I	0.3096	0.1936	0	0	0	0
12			J	0.3096	-0.1936	0	0	0	0
13	1	M8	I	-0.0243	0	0	0	0	0
14			J	-0.0243	0	0	0	0	0
15	2	M3	I	-0.5631	0.2383	0	0	0	0
16			J	-0.5634	0.0378	0	0	0	-0.0443
17	2	M4	I	0.0004	-0.0009	0	0	0	0
18			J	-0.0009	0.0014	0	0	0	-0.0042
19	2	M6	I	1.2628	0.0563	0	0	0	0.0443
20			J	0.9504	-0.1173	0	0	0	0.001
21	2	M7	I	0.0005	-0.0008	0	0	0	0.001
22			J	-0.0008	0.0014	0	0	0	-0.0042
23	2	M9	I	0.0026	0	0	0	0	0
24			J	0.0026	0	0	0	0	0
25	2	M10	I	0.5622	0.7745	0	0	0	0
26			J	0.5622	-0.7745	0	0	0	0
27	2	M8	I	-0.3571	0	0	0	0	0
28			J	-0.3571	0	0	0	0	0
29	3	M3	I	-1.2778	0.3497	0	0	0	0
30			J	-1.2784	-0.0541	0	0	0	-0.0494
31	3	M4	I	0.9423	0.0832	0	0	0	0
32			J	0.047	-0.086	0	0	0	0.1216
33	3	M6	I	2.9112	0.155	0	0	0	0.0494
34			J	2.2185	-0.2311	0	0	0	0.0565
35	3	M7	I	0.9471	0.086	0	0	0	0.0565
36			J	0.0521	-0.0829	0	0	0	0.1216
37	3	M9	I	0.3072	0.0924	0	0	0	0
38			J	0.3072	-0.0924	0	0	0	0
39	3	M10	I	0.8728	0.9681	0	0	0	0
40			J	0.8728	-0.9681	0	0	0	0
41	3	M8	I	-0.3799	0	0	0	0	0
42			J	-0.3799	0	0	0	0	0
43	4	M3	I	-0.7138	0.1114	0	0	0	0
44			J	-0.7138	-0.0919	0	0	0	-0.0048

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
45	4	M4	I	0.9418	0.084	0	0	0	0
46			J	0.0479	-0.0874	0	0	0	0.1257
47	4	M6	I	1.6491	0.0985	0	0	0	0.0048
48			J	1.2679	-0.1134	0	0	0	0.0553
49	4	M7	I	0.9467	0.0868	0	0	0	0.0553
50			J	0.0529	-0.0843	0	0	0	0.1257
51	4	M9	I	0.3046	0.0924	0	0	0	0
52			J	0.3046	-0.0924	0	0	0	0
53	4	M10	I	0.3096	0.1936	0	0	0	0
54			J	0.3096	-0.1936	0	0	0	0
55	4	M8	I	-0.0243	0	0	0	0	0
56			J	-0.0243	0	0	0	0	0
57	5	M3	I	-1.2778	0.3497	0	0	0	0
58			J	-1.2784	-0.0541	0	0	0	-0.0494
59	5	M4	I	0.9423	0.0832	0	0	0	0
60			J	0.047	-0.086	0	0	0	0.1216
61	5	M6	I	2.9112	0.155	0	0	0	0.0494
62			J	2.2185	-0.2311	0	0	0	0.0565
63	5	M7	I	0.9471	0.086	0	0	0	0.0565
64			J	0.0521	-0.0829	0	0	0	0.1216
65	5	M9	I	0.3072	0.0924	0	0	0	0
66			J	0.3072	-0.0924	0	0	0	0
67	5	M10	I	0.8728	0.9681	0	0	0	0
68			J	0.8728	-0.9681	0	0	0	0
69	5	M8	I	-0.3799	0	0	0	0	0
70			J	-0.3799	0	0	0	0	0
71	6	M3	I	-1.2297	0.107	0	0	0	0
72			J	-1.2297	-0.1437	0	0	0	-0.0199
73	6	M4	I	1.7767	0.1679	0	0	0	0
74			J	0.0956	-0.1743	0	0	0	0.2492
75	6	M6	I	2.8637	0.1837	0	0	0	0.0199
76			J	2.1895	-0.1919	0	0	0	0.1095
77	6	M7	I	1.7861	0.1734	0	0	0	0.1095
78			J	0.1054	-0.1683	0	0	0	0.2492
79	6	M9	I	0.5557	0.0924	0	0	0	0
80			J	0.5557	-0.0924	0	0	0	0
81	6	M10	I	0.4754	0.1936	0	0	0	0
82			J	0.4754	-0.1936	0	0	0	0
83	6	M8	I	0.0524	0	0	0	0	0
84			J	0.0524	0	0	0	0	0
85	7	M3	I	-1.524	0.2868	0	0	0	0
86			J	-1.5244	-0.1024	0	0	0	-0.0497
87	7	M4	I	1.5684	0.1463	0	0	0	0
88			J	0.0831	-0.1515	0	0	0	0.2152
89	7	M6	I	3.5063	0.2048	0	0	0	0.0497
90			J	2.6722	-0.2606	0	0	0	0.097
91	7	M7	I	1.5766	0.1512	0	0	0	0.097
92			J	0.0916	-0.1463	0	0	0	0.2152
93	7	M9	I	0.4948	0.0924	0	0	0	0
94			J	0.4948	-0.0924	0	0	0	0
95	7	M10	I	0.8566	0.7745	0	0	0	0
96			J	0.8566	-0.7745	0	0	0	0
97	7	M8	I	-0.2332	0	0	0	0	0
98			J	-0.2332	0	0	0	0	0
99	8	M3	I	-0.7838	0.1122	0	0	0	0
100			J	-0.7839	-0.0726	0	0	0	-0.0361
101	8	M4	I	0.7252	0.1767	0	0	0	0
102			J	-0.0613	-0.1786	0	0	0	0.1482

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
103	8	M6	I	1.8263	0.1165	0	0	0	0.0361
104			J	1.4124	-0.0857	0	0	0	-0.1729
105	8	M7	I	1.1518	0.0135	0	0	0	-0.1729
106			J	0.1857	-0.0333	0	0	0	0.1482
107	8	M9	I	0.4019	0.0924	0	0	0	0
108			J	0.4019	-0.0924	0	0	0	0
109	8	M10	I	0.1884	0.1936	0	0	0	0
110			J	0.1884	-0.1936	0	0	0	0
111	8	M8	I	-0.0479	0	0	0	0	0
112			J	-0.0479	0	0	0	0	0
113	9	M3	I	-1.5764	0.2874	0	0	0	0
114			J	-1.5767	-0.0879	0	0	0	-0.0734
115	9	M4	I	1.4059	0.2159	0	0	0	0
116			J	0.0011	-0.2201	0	0	0	0.232
117	9	M6	I	3.6392	0.2185	0	0	0	0.0734
118			J	2.7805	-0.24	0	0	0	-0.0747
119	9	M7	I	1.7305	0.096	0	0	0	-0.0747
120			J	0.1914	-0.1079	0	0	0	0.232
121	9	M9	I	0.5679	0.0924	0	0	0	0
122			J	0.5679	-0.0924	0	0	0	0
123	9	M10	I	0.7653	0.7745	0	0	0	0
124			J	0.7653	-0.7745	0	0	0	0
125	9	M8	I	-0.2509	0	0	0	0	0
126			J	-0.2509	0	0	0	0	0
127	10	M3	I	-1.1893	0.2907	0	0	0	0
128			J	-1.1896	-0.0491	0	0	0	-0.0618
129	10	M4	I	0.7797	0.1529	0	0	0	0
130			J	-0.0346	-0.1547	0	0	0	0.1395
131	10	M6	I	2.7285	0.1544	0	0	0	0.0618
132			J	2.0892	-0.181	0	0	0	-0.1148
133	10	M7	I	1.1009	0.0312	0	0	0	-0.1148
134			J	0.1519	-0.045	0	0	0	0.1395
135	10	M9	I	0.3796	0.0924	0	0	0	0
136			J	0.3796	-0.0924	0	0	0	0
137	10	M10	I	0.6409	0.7745	0	0	0	0
138			J	0.6409	-0.7745	0	0	0	0
139	10	M8	I	-0.3089	0	0	0	0	0
140			J	-0.3089	0	0	0	0	0
141	11	M3	I	-0.4983	0.0677	0	0	0	0
142			J	-0.4983	-0.0358	0	0	0	-0.034
143	11	M4	I	0.3485	0.143	0	0	0	0
144			J	-0.0803	-0.1435	0	0	0	0.0979
145	11	M6	I	1.1667	0.077	0	0	0	0.034
146			J	0.9052	-0.0402	0	0	0	-0.1945
147	11	M7	I	0.7731	-0.0211	0	0	0	-0.1945
148			J	0.1645	0.0003	0	0	0	0.0979
149	11	M9	I	0.28	0.0554	0	0	0	0
150			J	0.28	-0.0554	0	0	0	0
151	11	M10	I	0.0645	0.1162	0	0	0	0
152			J	0.0645	-0.1162	0	0	0	0
153	11	M8	I	-0.0384	0	0	0	0	0
154			J	-0.0384	0	0	0	0	0
155	12	M3	I	-0.7401	0.1124	0	0	0	0
156			J	-0.7401	-0.0711	0	0	0	-0.0331
157	12	M4	I	0.8611	0.1093	0	0	0	0
158			J	-0.0023	-0.1148	0	0	0	0.123
159	12	M6	I	1.7345	0.1156	0	0	0	0.0331
160			J	1.3304	-0.1091	0	0	0	-0.0525

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
161	12	M7	I	1.035	0.0485	0	0	0	-0.0525
162			J	0.1012	-0.0538	0	0	0	0.123
163	12	M9	I	0.3839	0.0924	0	0	0	0
164			J	0.3839	-0.0924	0	0	0	0
165	12	M10	I	0.2584	0.1936	0	0	0	0
166			J	0.2584	-0.1936	0	0	0	0
167	12	M8	I	-0.0504	0	0	0	0	0
168			J	-0.0504	0	0	0	0	0
169	13	M3	I	-1.1564	0.2909	0	0	0	0
170			J	-1.1568	-0.048	0	0	0	-0.0595
171	13	M4	I	0.8816	0.1024	0	0	0	0
172			J	0.0096	-0.1069	0	0	0	0.1205
173	13	M6	I	2.6597	0.1537	0	0	0	0.0595
174			J	2.0277	-0.1985	0	0	0	-0.0245
175	13	M7	I	1.0133	0.0575	0	0	0	-0.0245
176			J	0.0885	-0.0604	0	0	0	0.1205
177	13	M9	I	0.366	0.0924	0	0	0	0
178			J	0.366	-0.0924	0	0	0	0
179	13	M10	I	0.6934	0.7745	0	0	0	0
180			J	0.6934	-0.7745	0	0	0	0
181	13	M8	I	-0.3108	0	0	0	0	0
182			J	-0.3108	0	0	0	0	0
183	14	M3	I	-0.4545	0.0678	0	0	0	0
184			J	-0.4545	-0.0344	0	0	0	-0.0311
185	14	M4	I	0.4844	0.0757	0	0	0	0
186			J	-0.0213	-0.0798	0	0	0	0.0727
187	14	M6	I	1.075	0.0761	0	0	0	0.0311
188			J	0.8232	-0.0637	0	0	0	-0.0743
189	14	M7	I	0.6563	0.0138	0	0	0	-0.0743
190			J	0.08	-0.0202	0	0	0	0.0727
191	14	M9	I	0.262	0.0554	0	0	0	0
192			J	0.262	-0.0554	0	0	0	0
193	14	M10	I	0.1345	0.1162	0	0	0	0
194			J	0.1345	-0.1162	0	0	0	0
195	14	M8	I	-0.0408	0	0	0	0	0
196			J	-0.0408	0	0	0	0	0

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N4	max	1.524	7	2.2015	7	0	14	0	14	0	14	0	14
2		min	0.1178	11	0.489	11	0	1	0	1	0	1	0	1
3	N2	max	0	14	3.3775	9	0	14	0	14	0	14	0	14
4		min	0	1	1.0116	14	0	1	0	1	0	1	0	1
5	N8	max	0	14	1.6144	5	0	14	0	14	0	14	0	14
6		min	0	1	0.2088	14	0	1	0	1	0	1	0	1
7	N1	max	-0.4545	14	0.3497	5	0	14	0	14	0	14	0	14
8		min	-1.5764	9	0.0677	11	0	1	0	1	0	1	0	1
9	Totals:	max	0	2	7.079	9	0	14						
10		min	-0.3805	8	1.8604	11	0	1						

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0	9	0	11	0	14	0	14	0	14	-7.5445e-4	11
2		min	0	14	0	3	0	1	0	1	0	1	-5.4715e-3	3
3	N2	max	0.0257	9	0	14	0	14	0	14	0	14	2.1034e-3	7
4		min	0.0074	14	0	9	0	1	0	1	0	1	4.7678e-4	14
5	N3	max	-0.0207	11	-0.0264	11	0	14	0	14	0	14	1.0596e-3	8

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
6		min	-0.1532	7	-0.1247	7	0	1	0	1	0	1	7.3751e-5	2
7	N4	max	-0.0079	11	-0.0326	11	0	14	0	14	0	14	1.0212e-4	2
8		min	-0.1016	7	-0.1468	7	0	1	0	1	0	1	-1.1533e-3	8
9	N6	max	-0.0084	11	-0.0146	11	0	14	0	14	0	14	4.8938e-4	6
10		min	-0.109	7	-0.0905	7	0	1	0	1	0	1	-3.5508e-4	11
11	N8	max	0.0128	9	0	14	0	14	0	14	0	14	1.3183e-3	5
12		min	0.0037	14	0	3	0	1	0	1	0	1	-1.9883e-4	6
13	N14	max	0.0401	11	0.0104	11	0	14	0	14	0	14	1.4977e-4	7
14		min	-0.1273	7	-0.1078	7	0	1	0	1	0	1	2.8899e-6	11
15	N15	max	0.0426	11	-0.0458	2	0	14	0	14	0	14	4.3184e-4	9
16		min	-0.123	7	-0.1579	9	0	1	0	1	0	1	8.2779e-5	2
17	N9	max	0.0226	9	-0.0162	14	0	14	0	14	0	14	1.523e-3	7
18		min	0.0065	14	-0.0789	7	0	1	0	1	0	1	2.7063e-4	14
19	N11	max	-0.0149	14	-0.016	14	0	14	0	14	0	14	8.1401e-4	7
20		min	-0.0933	7	-0.0775	7	0	1	0	1	0	1	-1.7104e-5	11

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M3	1	max	-0.4545	14	0.3497	5	0	14	0	14	0	14	0	14
2			min	-1.5764	9	0.0677	11	0	1	0	1	0	1	0	1
3		2	max	-0.4545	14	-0.0202	14	0	14	0	14	0	14	-0.1735	11
4			min	-1.5764	9	-0.1172	3	0	1	0	1	0	1	-1.3858	3
5		3	max	-0.4545	14	-0.1082	14	0	14	0	14	0	14	2.1627	5
6			min	-1.5764	9	-0.8505	3	0	1	0	1	0	1	0.2956	14
7		4	max	-0.4545	14	0.053	6	0	14	0	14	0	14	-0.1184	14
8			min	-1.5764	9	0.0001	2	0	1	0	1	0	1	-0.7396	3
9		5	max	-0.4545	14	0.0378	2	0	14	0	14	0	14	-0.0048	4
10			min	-1.5767	9	-0.1437	6	0	1	0	1	0	1	-0.0734	9
11	M4	1	max	1.7767	6	0.2159	9	0	14	0	14	0	14	0	14
12			min	0.0004	2	-0.0009	2	0	1	0	1	0	1	0	1
13		2	max	1.4467	6	0.018	11	0	14	0	14	0	14	0.0041	2
14			min	0.0004	2	-0.0258	6	0	1	0	1	0	1	-0.5074	9
15		3	max	1.1167	6	-0.0009	2	0	14	0	14	0	14	0.2465	6
16			min	0.0004	2	-0.2233	9	0	1	0	1	0	1	-0.1724	11
17		4	max	0.4256	6	0.0194	6	0	14	0	14	0	14	0.0025	2
18			min	-0.0205	11	-0.0217	14	0	1	0	1	0	1	-0.3144	8
19		5	max	0.0956	6	0.0014	2	0	14	0	14	0	14	0.2492	6
20			min	-0.0803	11	-0.2201	9	0	1	0	1	0	1	-0.0042	2
21	M6	1	max	3.6392	9	0.2185	9	0	14	0	14	0	14	0.0734	9
22			min	1.075	14	0.0563	2	0	1	0	1	0	1	0.0048	1
23		2	max	3.4794	9	0.1353	9	0	14	0	14	0	14	-0.1004	2
24			min	1.021	14	0.0462	14	0	1	0	1	0	1	-0.3816	9
25		3	max	3.3197	9	0.0628	10	0	14	0	14	0	14	-0.2066	14
26			min	0.967	14	-0.0157	6	0	1	0	1	0	1	-0.6227	9
27		4	max	2.9403	9	-0.0157	11	0	14	0	14	0	14	-0.1722	4
28			min	0.8772	14	-0.1812	3	0	1	0	1	0	1	-0.5851	9
29		5	max	2.7805	9	-0.0402	11	0	14	0	14	0	14	0.1095	6
30			min	0.8232	14	-0.2606	7	0	1	0	1	0	1	-0.1945	11
31	M7	1	max	1.7861	6	0.1734	6	0	14	0	14	0	14	0.1095	6
32			min	0.0005	2	-0.0211	11	0	1	0	1	0	1	-0.1945	11
33		2	max	1.4561	6	-0.0008	2	0	14	0	14	0	14	0.0216	11
34			min	0.0005	2	-0.0734	8	0	1	0	1	0	1	-0.257	6
35		3	max	1.1443	9	-0.0008	2	0	14	0	14	0	14	0.5559	9
36			min	0.0005	2	-0.2279	9	0	1	0	1	0	1	0.0087	2
37		4	max	0.4845	9	0.0541	9	0	14	0	14	0	14	0.2145	11
38			min	-0.0008	2	0.0014	2	0	1	0	1	0	1	-0.0931	6
39		5	max	0.1914	9	0.0014	2	0	14	0	14	0	14	0.2492	6
40			min	-0.0008	2	-0.1683	6	0	1	0	1	0	1	-0.0042	2

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
41	M9	1	max	0.5679	9	0.0924	13	0	14	0	14	0	14	0	14
42			min	0.0026	2	0	2	0	1	0	1	0	1	0	1
43		2	max	0.5679	9	0.0462	13	0	14	0	14	0	14	0	2
44			min	0.0026	2	0	2	0	1	0	1	0	1	-0.1601	1
45		3	max	0.5679	9	0	14	0	14	0	14	0	14	0	2
46			min	0.0026	2	0	1	0	1	0	1	0	1	-0.2135	1
47		4	max	0.5679	9	0	2	0	14	0	14	0	14	0	2
48			min	0.0026	2	-0.0462	1	0	1	0	1	0	1	-0.1601	1
49		5	max	0.5679	9	0	2	0	14	0	14	0	14	0	14
50			min	0.0026	2	-0.0924	1	0	1	0	1	0	1	0	1
51	M10	1	max	0.8728	5	0.9681	5	0	14	0	14	0	14	0	14
52			min	0.0645	11	0.1162	11	0	1	0	1	0	1	0	1
53		2	max	0.8728	5	0.484	5	0	14	0	14	0	14	-0.4217	14
54			min	0.0645	11	0.0581	11	0	1	0	1	0	1	-3.5145	3
55		3	max	0.8728	5	0	14	0	14	0	14	0	14	-0.5623	14
56			min	0.0645	11	0	1	0	1	0	1	0	1	-4.686	3
57		4	max	0.8728	5	-0.0581	14	0	14	0	14	0	14	-0.4217	14
58			min	0.0645	11	-0.484	3	0	1	0	1	0	1	-3.5145	3
59		5	max	0.8728	5	-0.1162	14	0	14	0	14	0	14	0	14
60			min	0.0645	11	-0.9681	3	0	1	0	1	0	1	0	1
61	M8	1	max	0.0524	6	0	14	0	14	0	14	0	14	0	14
62			min	-0.3799	3	0	1	0	1	0	1	0	1	0	1
63		2	max	0.0524	6	0	14	0	14	0	14	0	14	0	14
64			min	-0.3799	3	0	1	0	1	0	1	0	1	0	1
65		3	max	0.0524	6	0	14	0	14	0	14	0	14	0	14
66			min	-0.3799	3	0	1	0	1	0	1	0	1	0	1
67		4	max	0.0524	6	0	14	0	14	0	14	0	14	0	14
68			min	-0.3799	3	0	1	0	1	0	1	0	1	0	1
69		5	max	0.0524	6	0	14	0	14	0	14	0	14	0	14
70			min	-0.3799	3	0	1	0	1	0	1	0	1	0	1

	Member		Axial[k]	Loc[ft]	LC	y Shear[k]	Loc[ft]	LC	z Shear[k]	Loc[ft]	LC	Torque[k-ft]	Loc[ft]	LC	y-y Moment[k-ft]	Loc[ft]	LC	z-z Moment[k-ft]	Loc[ft]	LC
1	M3	max	-0.4545	14.6667	14	0.7326	14.9722	5	0	29.3333	14	0	29.3333	14	0	29.3333	14	2.1627	14.6667	5
2		min	-1.5767	25.9722	9	-0.8505	14.6667	3	0	0	1	0	0	1	0	0	1	-1.4543	6.1111	3
3	M4	max	1.7767	0	6	0.2159	0	9	0	19.1316	14	0	19.1316	14	0	19.1316	14	0.3372	9.9644	6
4		min	-0.0803	19.1316	11	-0.2416	9.9644	9	0	0	1	0	0	1	0	0	1	-0.5074	4.7829	9
5	M6	max	3.6392	0	9	0.2185	0	9	0	10.2883	14	0	10.2883	14	0	10.2883	14	0.1095	10.2883	6
6		min	0.8232	10.2883	14	-0.2606	10.2883	7	0	0	1	0	0	1	0	0	1	-0.6647	6.7517	9
7	M7	max	1.7861	0	6	0.1958	10.1623	9	0	19.1291	14	0	19.1291	14	0	19.1291	14	0.6495	9.9631	9
8		min	-0.0008	10.1623	2	-0.2414	9.9631	9	0	0	1	0	0	1	0	0	1	-0.2619	4.3837	6
9	M9	max	0.5679	9.2408	9	0.0924	0	13	0	9.2408	14	0	9.2408	14	0	9.2408	14	0	9.2408	14
10		min	0.0026	0	2	-0.0924	9.2408	1	0	0	1	0	0	1	0	0	1	-0.2135	4.6204	1
11	M10	max	0.8728	19.3618	5	0.9681	0	5	0	19.3618	14	0	19.3618	14	0	19.3618	14	0	19.3618	14
12		min	0.0645	0	11	-0.9681	19.3618	3	0	0	1	0	0	1	0	0	1	-4.686	9.6809	3
13	M8	max	0.0524	6.3	6	0	6.3	14	0	6.3	14	0	6.3	14	0	6.3	14	0	6.3	14
14		min	-0.3799	0	3	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M3	I	max	-0.4545	14	0.3497	5	0	14	0	14	0	14	0	14
2			min	-1.5764	9	0.0677	11	0	1	0	1	0	1	0	1
3		J	max	-0.4545	14	0.0378	2	0	14	0	14	0	14	-0.0048	4
4			min	-1.5767	9	-0.1437	6	0	1	0	1	0	1	-0.0734	9
5	M4	I	max	1.7767	6	0.2159	9	0	14	0	14	0	14	0	14
6			min	0.0004	2	-0.0009	2	0	1	0	1	0	1	0	1
7		J	max	0.0956	6	0.0014	2	0	14	0	14	0	14	0.2492	6

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
8			min	-0.0803	11	-0.2201	9	0	1	0	1	0	1	-0.0042	2
9	M6	I	max	3.6392	9	0.2185	9	0	14	0	14	0	14	0.0734	9
10			min	1.075	14	0.0563	2	0	1	0	1	0	1	0.0048	1
11		J	max	2.7805	9	-0.0402	11	0	14	0	14	0	14	0.1095	6
12			min	0.8232	14	-0.2606	7	0	1	0	1	0	1	-0.1945	11
13	M7	I	max	1.7861	6	0.1734	6	0	14	0	14	0	14	0.1095	6
14			min	0.0005	2	-0.0211	11	0	1	0	1	0	1	-0.1945	11
15		J	max	0.1914	9	0.0014	2	0	14	0	14	0	14	0.2492	6
16			min	-0.0008	2	-0.1683	6	0	1	0	1	0	1	-0.0042	2
17	M9	I	max	0.5679	9	0.0924	13	0	14	0	14	0	14	0	14
18			min	0.0026	2	0	2	0	1	0	1	0	1	0	1
19		J	max	0.5679	9	0	2	0	14	0	14	0	14	0	14
20			min	0.0026	2	-0.0924	1	0	1	0	1	0	1	0	1
21	M10	I	max	0.8728	5	0.9681	5	0	14	0	14	0	14	0	14
22			min	0.0645	11	0.1162	11	0	1	0	1	0	1	0	1
23		J	max	0.8728	5	-0.1162	14	0	14	0	14	0	14	0	14
24			min	0.0645	11	-0.9681	3	0	1	0	1	0	1	0	1
25	M8	I	max	0.0524	6	0	14	0	14	0	14	0	14	0	14
26			min	-0.3799	3	0	1	0	1	0	1	0	1	0	1
27		J	max	0.0524	6	0	14	0	14	0	14	0	14	0	14
28			min	-0.3799	3	0	1	0	1	0	1	0	1	0	1

	Member	Sec		Torque[k-ft]	LC	Torsion Shear[ksi]	LC	y-y Warp Shear[ksi]	z-z Warp Shear[ksi]	z-Top Warp Bend[ksi]	z-Bot Warp Bend[ksi]
1	M3	1	max	0	14	0	14	NC	NC	NC	NC
2			min	0	1	0	1	NC	NC	NC	NC
3		2	max	0	14	0	14	NC	NC	NC	NC
4			min	0	1	0	1	NC	NC	NC	NC
5		3	max	0	14	0	14	NC	NC	NC	NC
6			min	0	1	0	1	NC	NC	NC	NC
7		4	max	0	14	0	14	NC	NC	NC	NC
8			min	0	1	0	1	NC	NC	NC	NC
9		5	max	0	14	0	14	NC	NC	NC	NC
10			min	0	1	0	1	NC	NC	NC	NC
11	M4	1	max	0	14	0	14	NC	NC	NC	NC
12			min	0	1	0	1	NC	NC	NC	NC
13		2	max	0	14	0	14	NC	NC	NC	NC
14			min	0	1	0	1	NC	NC	NC	NC
15		3	max	0	14	0	14	NC	NC	NC	NC
16			min	0	1	0	1	NC	NC	NC	NC
17		4	max	0	14	0	14	NC	NC	NC	NC
18			min	0	1	0	1	NC	NC	NC	NC
19		5	max	0	14	0	14	NC	NC	NC	NC
20			min	0	1	0	1	NC	NC	NC	NC
21	M6	1	max	0	14	0	14	NC	NC	NC	NC
22			min	0	1	0	1	NC	NC	NC	NC
23		2	max	0	14	0	14	NC	NC	NC	NC
24			min	0	1	0	1	NC	NC	NC	NC
25		3	max	0	14	0	14	NC	NC	NC	NC
26			min	0	1	0	1	NC	NC	NC	NC
27		4	max	0	14	0	14	NC	NC	NC	NC
28			min	0	1	0	1	NC	NC	NC	NC
29		5	max	0	14	0	14	NC	NC	NC	NC
30			min	0	1	0	1	NC	NC	NC	NC
31	M7	1	max	0	14	0	14	NC	NC	NC	NC
32			min	0	1	0	1	NC	NC	NC	NC
33		2	max	0	14	0	14	NC	NC	NC	NC
34			min	0	1	0	1	NC	NC	NC	NC

	Member	Sec		Torque[k-ft]	LC	Torsion Shear[ksi]	LC	y-y Warp Shear[ksi]	z-z Warp Shear[ksi]	z-Top Warp Bend[ksi]	z-Bot Warp Bend[ksi]
35		3	max	0	14	0	14	NC	NC	NC	NC
36			min	0	1	0	1	NC	NC	NC	NC
37		4	max	0	14	0	14	NC	NC	NC	NC
38			min	0	1	0	1	NC	NC	NC	NC
39		5	max	0	14	0	14	NC	NC	NC	NC
40			min	0	1	0	1	NC	NC	NC	NC
41	M9	1	max	0	14	0	14	NC	NC	NC	NC
42			min	0	1	0	1	NC	NC	NC	NC
43		2	max	0	14	0	14	NC	NC	NC	NC
44			min	0	1	0	1	NC	NC	NC	NC
45		3	max	0	14	0	14	NC	NC	NC	NC
46			min	0	1	0	1	NC	NC	NC	NC
47		4	max	0	14	0	14	NC	NC	NC	NC
48			min	0	1	0	1	NC	NC	NC	NC
49		5	max	0	14	0	14	NC	NC	NC	NC
50			min	0	1	0	1	NC	NC	NC	NC
51	M10	1	max	0	14	0	14	NC	NC	NC	NC
52			min	0	1	0	1	NC	NC	NC	NC
53		2	max	0	14	0	14	NC	NC	NC	NC
54			min	0	1	0	1	NC	NC	NC	NC
55		3	max	0	14	0	14	NC	NC	NC	NC
56			min	0	1	0	1	NC	NC	NC	NC
57		4	max	0	14	0	14	NC	NC	NC	NC
58			min	0	1	0	1	NC	NC	NC	NC
59		5	max	0	14	0	14	NC	NC	NC	NC
60			min	0	1	0	1	NC	NC	NC	NC
61	M8	1	max	0	14	0	14	NC	NC	NC	NC
62			min	0	1	0	1	NC	NC	NC	NC
63		2	max	0	14	0	14	NC	NC	NC	NC
64			min	0	1	0	1	NC	NC	NC	NC
65		3	max	0	14	0	14	NC	NC	NC	NC
66			min	0	1	0	1	NC	NC	NC	NC
67		4	max	0	14	0	14	NC	NC	NC	NC
68			min	0	1	0	1	NC	NC	NC	NC
69		5	max	0	14	0	14	NC	NC	NC	NC
70			min	0	1	0	1	NC	NC	NC	NC

	Member	Sec		Axial[ksi]	LC	y Shear[ksi]	LC	z Shear[ksi]	LC	y-Top[ksi]	LC	y-Bot[ksi]	LC	z-Top[ksi]	LC	z-Bot[ksi]	LC
1	M3	1	max	-0.0273	14	0.0316	5	0	14	0	14	0	14	0	14	0	14
2			min	-0.0948	9	0.0061	11	0	1	0	1	0	1	0	1	0	1
3		2	max	-0.0273	14	-0.0018	14	0	14	0.6317	5	-0.0791	11	0	14	0	14
4			min	-0.0948	9	-0.0106	3	0	1	0.0791	11	-0.6317	3	0	1	0	1
5		3	max	-0.0273	14	-0.0098	14	0	14	-0.1347	14	0.9859	5	0	14	0	14
6			min	-0.0948	9	-0.0767	3	0	1	-0.9859	3	0.1347	14	0	1	0	1
7		4	max	-0.0273	14	0.0048	6	0	14	0.3372	5	-0.054	14	0	14	0	14
8			min	-0.0948	9	0	2	0	1	0.054	14	-0.3372	3	0	1	0	1
9		5	max	-0.0273	14	0.0034	2	0	14	0.0335	9	-0.0022	4	0	14	0	14
10			min	-0.0948	9	-0.013	6	0	1	0.0022	1	-0.0335	9	0	1	0	1
11	M4	1	max	0.0855	6	0.0156	9	0	14	0	14	0	14	0	14	0	14
12			min	0	2	0	2	0	1	0	1	0	1	0	1	0	1
13		2	max	0.0696	6	0.0013	11	0	14	0.148	9	0.0012	2	0	14	0	14
14			min	0	2	-0.0019	6	0	1	-0.0012	2	-0.148	9	0	1	0	1
15		3	max	0.0537	6	0	2	0	14	0.0503	11	0.0719	6	0	14	0	14
16			min	0	2	-0.0161	9	0	1	-0.0719	6	-0.0503	11	0	1	0	1
17		4	max	0.0205	6	0.0014	6	0	14	0.0917	8	0.0007	2	0	14	0	14
18			min	-0.001	11	-0.0016	14	0	1	-0.0007	2	-0.0917	8	0	1	0	1
19		5	max	0.0046	6	0.0001	2	0	14	0.0012	2	0.0727	6	0	14	0	14

	Member	Sec		Axial[ksi]	LC	y Shear[ksi]	LC	z Shear[ksi]	LC	y-Top[ksi]	LC	y-Bot[ksi]	LC	z-Top[ksi]	LC	z-Bot[ksi]	LC
20			min	-0.0039	11	-0.0159	9	0	1	-0.0727	6	-0.0012	2	0	1	0	1
21	M6	1	max	0.1751	9	0.0158	9	0	14	-0.0014	4	0.0214	9	0	14	0	14
22			min	0.0517	14	0.0041	2	0	1	-0.0214	9	0.0014	1	0	1	0	1
23		2	max	0.1674	9	0.0098	9	0	14	0.1113	9	-0.0293	2	0	14	0	14
24			min	0.0491	14	0.0033	14	0	1	0.0293	2	-0.1113	9	0	1	0	1
25		3	max	0.1597	9	0.0045	10	0	14	0.1817	9	-0.0603	14	0	14	0	14
26			min	0.0465	14	-0.0011	6	0	1	0.0603	14	-0.1817	9	0	1	0	1
27		4	max	0.1415	9	-0.0011	11	0	14	0.1707	9	-0.0502	4	0	14	0	14
28			min	0.0422	14	-0.0131	3	0	1	0.0502	1	-0.1707	9	0	1	0	1
29		5	max	0.1338	9	-0.0029	11	0	14	0.0567	11	0.032	6	0	14	0	14
30			min	0.0396	14	-0.0188	7	0	1	-0.032	6	-0.0567	11	0	1	0	1
31	M7	1	max	0.0859	6	0.0125	6	0	14	0.0567	11	0.032	6	0	14	0	14
32			min	0	2	-0.0015	11	0	1	-0.032	6	-0.0567	11	0	1	0	1
33		2	max	0.0701	6	0	2	0	14	0.075	6	0.0063	11	0	14	0	14
34			min	0	2	-0.0053	8	0	1	-0.0063	11	-0.075	6	0	1	0	1
35		3	max	0.0551	9	0	2	0	14	-0.0025	2	0.1622	9	0	14	0	14
36			min	0	2	-0.0164	9	0	1	-0.1622	9	0.0025	2	0	1	0	1
37		4	max	0.0233	9	0.0039	9	0	14	0.0271	6	0.0626	11	0	14	0	14
38			min	0	2	0.0001	2	0	1	-0.0626	11	-0.0271	6	0	1	0	1
39		5	max	0.0092	9	0.0001	2	0	14	0.0012	2	0.0727	6	0	14	0	14
40			min	0	2	-0.0122	6	0	1	-0.0727	6	-0.0012	2	0	1	0	1
41	M9	1	max	0.059	9	0.0144	13	0	14	0	14	0	14	0	14	0	14
42			min	0.0003	2	0	2	0	1	0	1	0	1	0	1	0	1
43		2	max	0.059	9	0.0072	13	0	14	0.2178	13	0	2	0	14	0	14
44			min	0.0003	2	0	2	0	1	0	2	-0.2178	1	0	1	0	1
45		3	max	0.059	9	0	14	0	14	0.2904	13	0	2	0	14	0	14
46			min	0.0003	2	0	1	0	1	0	2	-0.2904	1	0	1	0	1
47		4	max	0.059	9	0	2	0	14	0.2178	13	0	2	0	14	0	14
48			min	0.0003	2	-0.0072	1	0	1	0	2	-0.2178	1	0	1	0	1
49		5	max	0.059	9	0	2	0	14	0	14	0	14	0	14	0	14
50			min	0.0003	2	-0.0144	1	0	1	0	1	0	1	0	1	0	1
51	M10	1	max	0.042	5	0.0699	5	0	14	0	14	0	14	0	14	0	14
52			min	0.0031	11	0.0084	11	0	1	0	1	0	1	0	1	0	1
53		2	max	0.042	5	0.0349	5	0	14	1.0254	5	-0.123	14	0	14	0	14
54			min	0.0031	11	0.0042	11	0	1	0.123	11	-1.0254	3	0	1	0	1
55		3	max	0.042	5	0	14	0	14	1.3672	5	-0.1641	14	0	14	0	14
56			min	0.0031	11	0	1	0	1	0.1641	11	-1.3672	3	0	1	0	1
57		4	max	0.042	5	-0.0042	14	0	14	1.0254	5	-0.123	14	0	14	0	14
58			min	0.0031	11	-0.0349	3	0	1	0.123	11	-1.0254	3	0	1	0	1
59		5	max	0.042	5	-0.0084	14	0	14	0	14	0	14	0	14	0	14
60			min	0.0031	11	-0.0699	3	0	1	0	1	0	1	0	1	0	1
61	M8	1	max	0.0054	6	0	14	0	14	0	14	0	14	0	14	0	14
62			min	-0.0395	3	0	1	0	1	0	1	0	1	0	1	0	1
63		2	max	0.0054	6	0	14	0	14	0	14	0	14	0	14	0	14
64			min	-0.0395	3	0	1	0	1	0	1	0	1	0	1	0	1
65		3	max	0.0054	6	0	14	0	14	0	14	0	14	0	14	0	14
66			min	-0.0395	3	0	1	0	1	0	1	0	1	0	1	0	1
67		4	max	0.0054	6	0	14	0	14	0	14	0	14	0	14	0	14
68			min	-0.0395	3	0	1	0	1	0	1	0	1	0	1	0	1
69		5	max	0.0054	6	0	14	0	14	0	14	0	14	0	14	0	14
70			min	-0.0395	3	0	1	0	1	0	1	0	1	0	1	0	1

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k k

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
1	M3	1	max	13.4444	-0.0012	NC	6
2		1	min	6.7222	-0.2744	641	3
3		2	max	14.9722	0.001	NC	4
4		2	min	22	-0.0545	2459	7
5		3	max	28.4166	-0.001	NC	14
6		3	min	27.1944	-0.0056	7489	6
7	M4	1	max	5.58	0.001	NC	2
8		1	min	8.1708	-0.0709	3237	8
9	M6	1	max	0.3215	-0.001	NC	12
10		1	min	3.9653	-0.0166	5214	9
11		2	max	7.2876	0.001	NC	13
12		2	min	10.2883	0.0476	1555	9
13	M7	1	max	13.5498	0.001	NC	2
14		1	min	10.3616	0.0643	3571	8
15	M9	1	max	0.0963	-0.0021	NC	14
16		1	min	4.6204	-0.104	1066	8
17	M10	1	max	19.1601	-0.004	NC	11
18		1	min	9.6809	-0.996	233	3

k k k k k k k

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Fc' [ksi]	Ft' [ksi]	Fb1' [ksi]	Fb2' [ksi]	Fv' [ksi]	RB	CL	CP	Eqn
1	M3	1.75X9.5FS	0.4726	14.6667	5	0.3837	14.6667	y	5	0.71	1.5	2.2619	2.34	0.2	12.2024	0.9666	0.3641	3.9-1
2	M4	1.75X11.875FS	0.1187	0	6	0.068	9.9644	y	6	0.7204	1.875	2.7111	2.925	0.25	13.6427	0.9269	0.2956	3.6.3
3	M6	1.75X11.875FS	0.2404	0	9	0.0834	10.2883	y	5	0.7285	2.4	1.6564	3.744	0.2	21.8797	0.4424	0.2335	3.6.3
4	M7	1.75X11.875FS	0.1193	0	6	0.0664	9.9631	y	6	0.7204	1.875	2.7111	2.925	0.25	13.6427	0.9269	0.2956	3.6.3
5	M9	1.75X5.5FS	0.1424	4.6204	4	0.08	9.2408	y	4	0.7036	1.35	2.0772	2.106	0.18	9.2846	0.9863	0.4009	3.9-3
6	M10	1.75X11.875FS	0.6181	9.6809	5	0.3494	19.3618	y	5	0.71	1.5	2.2274	2.34	0.2	13.6427	0.9519	0.3641	3.9-3
7	M8	1.75X5.5FS	0.0263	6.3	5	0	6.3	z	14	0.2973	1.5	2.1883	2.25	0.32	11.6521	0.9726	0.1524	3.9-1

k k k k

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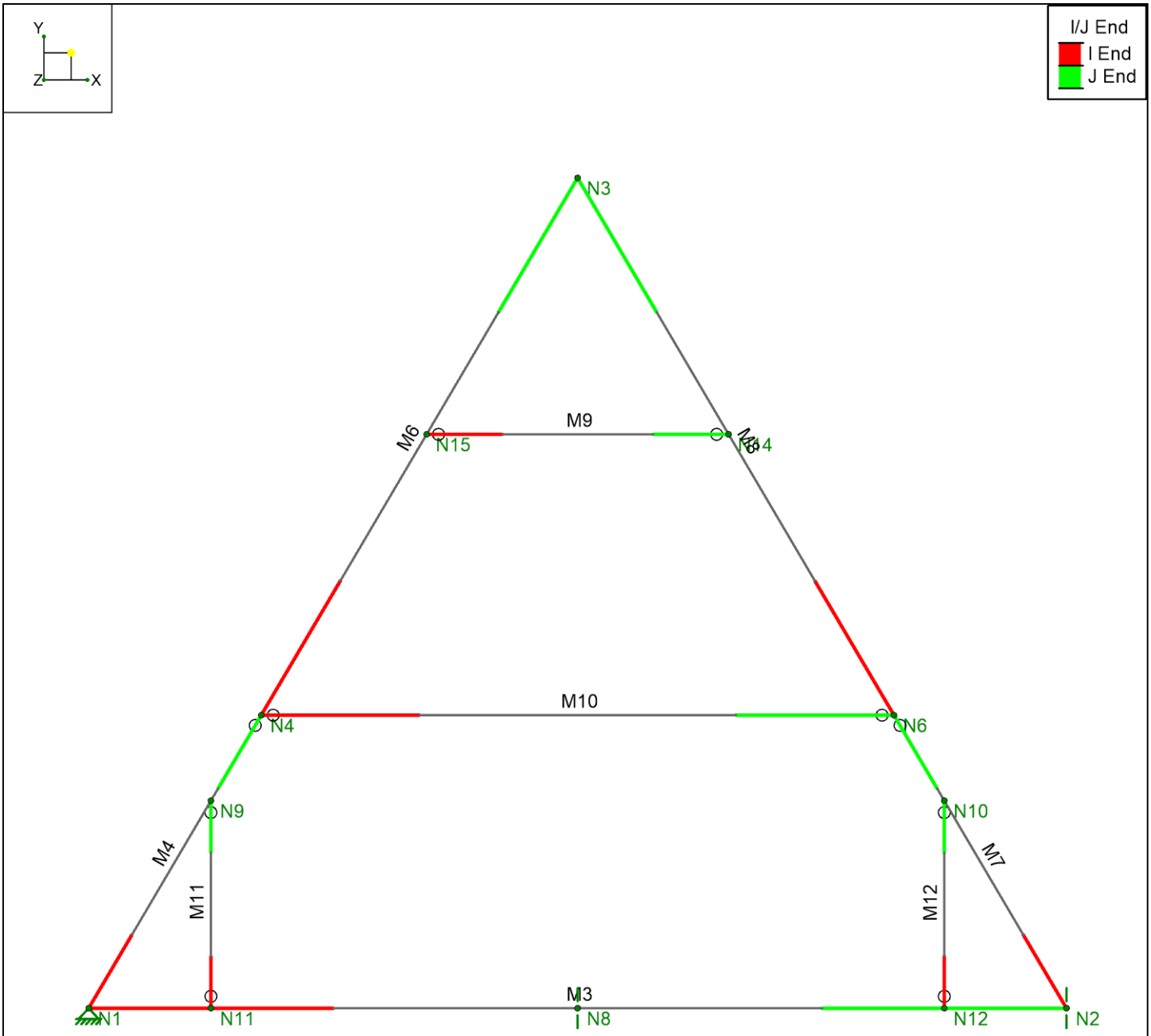

Meier A+E		SK-4
TDK		Oct 19, 2021
8785		Truss 6 20psf LL 100mphExpC W…

Company : Meier A+E
Designer : TDK
Job Number : 8785
Model Name :

Checked By : _____

5

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	0	0	0	
2	N2	30	0	0	
3	N3	15	25.5	0	
4	N4	5.294118	9	0	
5	N6	24.705882	9	0	
6	N8	15	0	0	
7	N14	19.632659	17.624479	0	
8	N15	10.367341	17.624479	0	
9	N9	3.75	6.375	0	
10	N10	26.25	6.375	0	
11	N11	3.75	0	0	
12	N12	26.25	0	0	

5 5

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	N2		Reaction	
2	N8		Reaction	Reaction
3	N1	Reaction	Reaction	Reaction

5 5 5 5 5 5 55 5

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N4	L	Y	0
2	N4	L	Y	-1.89

5 5 5 5 5 5 55 5 5

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N4	L	Y	-1.89

5 5 5 5 5 5 55 5

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N4	L	Y	-1.6

5 5 5 5 5 5 55

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N15	L	X	0.2
2	N4	L	X	0.25

5 5 5 5 55 5

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	M6	Y	1.89	0
2	M6	Y	-1.89	0

5 5 5 5 55 5

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	Y	0.04	0.04	0	%100
2	M4	Y	-0.04	-0.04	0	%100
3	M4	Y	-0.04	-0.04	0	%100
4	M7	Y	-0.04	-0.04	0	%100
5	M10	Y	-0.02	-0.02	0	%100
6	M3	Y	-0.02	-0.02	0	%100
7	M9	Y	-0.02	-0.02	0	%100
8	M6	Y	-0.04	-0.04	0	%100
9	M8	Y	-0.04	-0.04	0	%100

N N N NNN N N

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	Y	-0.04	-0.04	0	%100
2	M7	Y	-0.04	-0.04	0	%100
3	M6	Y	-0.04	-0.04	0	%100
4	M8	Y	-0.04	-0.04	0	%100

N N N NNN N

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M10	Y	-0.08	-0.08	0	%100
2	M3	Y	-0.08	-0.08	3.333	26

N N N NNN N

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M4	X	0.027	0.027	0	%100
2	M7	X	0.004	0.004	0	%100
3	M6	X	0.027	0.027	0	%100
4	M8	X	0.004	0.004	0	%100

N N

	BLC Description	Category	Nodal	Point	Distributed
1	Dead load	DL	2	2	9
2	Roof live load	RLL	1		4
3	Live load	LL	1		2
4	Wind load	WL			4
5	Seismic	EL	2		

N

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Deflection 1	Yes	Y	DL	1								
2	Deflection 2	Yes	Y	LL	1								
3	Deflection 3	Yes	Y	DL	1	LL	1						
4	IBC 16-8	Yes	Y	DL	1								
5	IBC 16-9	Yes	Y	DL	1	LL	1	LLS	1				
6	IBC 16-10 (a)	Yes	Y	DL	1	RLL	1						
7	IBC 16-11 (a)	Yes	Y	DL	1	LL	0.75	LLS	0.75	RLL	0.75		
8	IBC 16-12 (a)	Yes	Y	DL	1	WL	0.6						
9	IBC 16-13 (a)	Yes	Y	DL	1	WL	0.45	LL	0.75	LLS	0.75	RLL	0.75
10	IBC 16-13 (b)	Yes	Y	DL	1	WL	0.45	LL	0.75	LLS	0.75		
11	IBC 16-15	Yes	Y	DL	0.6	WL	0.6						
12	IBC 16-12 (b)	Yes	Y	DL	1	EL	0.7						
13	IBC 16-14	Yes	Y	DL	1	EL	0.525	LL	0.75	LLS	0.75		
14	IBC 16-16	Yes	Y	DL	0.6	EL	0.7						

N N

	Description	CD	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	Deflection 1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Deflection 2		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Deflection 3		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	IBC 16-8	0.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	IBC 16-9		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	IBC 16-10 (a)	1.25	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	IBC 16-11 (a)	1.25	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	IBC 16-12 (a)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	IBC 16-13 (a)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	IBC 16-13 (b)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	IBC 16-15	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	IBC 16-12 (b)	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

RISA A NEMETSCHEK COMPANY

Company : Meier A+E
Designer : TDK
Job Number : 8785
Model Name :

Checked By : _____

	N	N	N								
	Description	CD	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
13	IBC 16-14	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	IBC 16-16	1.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	N							
	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N2	0	1.9261	0	0	0	0
2	1	N8	0	0.3655	0	0	0	0
3	1	N1	0	3.1387	0	0	0	0
4	1	Totals:	0	5.4303	0			
5	1	COG (ft):	X: 11.6219	Y: 9.9343	Z: 0			
6	2	N2	0	1.3947	0	0	0	0
7	2	N8	0	1.1092	0	0	0	0
8	2	N1	0	2.4624	0	0	0	0
9	2	Totals:	0	4.9663	0			
10	2	COG (ft):	X: 11.7513	Y: 5.7138	Z: 0			
11	3	N2	0	3.3301	0	0	0	0
12	3	N8	0	1.475	0	0	0	0
13	3	N1	0	5.5915	0	0	0	0
14	3	Totals:	0	10.3966	0			
15	3	COG (ft):	X: 11.6837	Y: 7.9182	Z: 0			
16	4	N2	0	1.9261	0	0	0	0
17	4	N8	0	0.3655	0	0	0	0
18	4	N1	0	3.1387	0	0	0	0
19	4	Totals:	0	5.4303	0			
20	4	COG (ft):	X: 11.6219	Y: 9.9343	Z: 0			
21	5	N2	0	3.3301	0	0	0	0
22	5	N8	0	1.475	0	0	0	0
23	5	N1	0	5.5915	0	0	0	0
24	5	Totals:	0	10.3966	0			
25	5	COG (ft):	X: 11.6837	Y: 7.9182	Z: 0			
26	6	N2	0	3.4142	0	0	0	0
27	6	N8	0	0.4522	0	0	0	0
28	6	N1	0	5.8207	0	0	0	0
29	6	Totals:	0	9.6871	0			
30	6	COG (ft):	X: 11.2127	Y: 10.44	Z: 0			
31	7	N2	0	4.0986	0	0	0	0
32	7	N8	0	1.2627	0	0	0	0
33	7	N1	0	6.9863	0	0	0	0
34	7	Totals:	0	12.3476	0			
35	7	COG (ft):	X: 11.4201	Y: 8.9587	Z: 0			
36	8	N2	0	2.1537	0	0	0	0
37	8	N8	0	0.3775	0	0	0	0
38	8	N1	-0.5467	2.8992	0	0	0	0
39	8	Totals:	-0.5467	5.4303	0			
40	8	COG (ft):	X: 11.6219	Y: 9.9343	Z: 0			
41	9	N2	0	4.2704	0	0	0	0
42	9	N8	0	1.2718	0	0	0	0
43	9	N1	-0.41	6.8054	0	0	0	0
44	9	Totals:	-0.41	12.3476	0			
45	9	COG (ft):	X: 11.4201	Y: 8.9587	Z: 0			
46	10	N2	0	3.1495	0	0	0	0
47	10	N8	0	1.2066	0	0	0	0
48	10	N1	-0.41	4.7989	0	0	0	0
49	10	Totals:	-0.41	9.155	0			
50	10	COG (ft):	X: 11.6745	Y: 8.2172	Z: 0			
51	11	N2	0	1.3815	0	0	0	0
52	11	N8	0	0.2312	0	0	0	0
53	11	N1	-0.5467	1.6455	0	0	0	0

	N	N						
	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
54	11	Totals:	-0.5467	3.2582	0			
55	11	COG (ft):	X: 11.6219	Y: 9.9343	Z: 0			
56	12	N2	0	2.061	0	0	0	0
57	12	N8	0	0.3672	0	0	0	0
58	12	N1	-0.315	3.0021	0	0	0	0
59	12	Totals:	-0.315	5.4303	0			
60	12	COG (ft):	X: 11.6219	Y: 9.9343	Z: 0			
61	13	N2	0	3.08	0	0	0	0
62	13	N8	0	1.1989	0	0	0	0
63	13	N1	-0.2362	4.8762	0	0	0	0
64	13	Totals:	-0.2362	9.155	0			
65	13	COG (ft):	X: 11.6745	Y: 8.2172	Z: 0			
66	14	N2	0	1.2889	0	0	0	0
67	14	N8	0	0.221	0	0	0	0
68	14	N1	-0.315	1.7483	0	0	0	0
69	14	Totals:	-0.315	3.2582	0			
70	14	COG (ft):	X: 11.6219	Y: 9.9343	Z: 0			

	N	N							
	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1	1	M3	I	-1.301	1.3504	0	0	0	0.824
2			J	-1.3013	1.1857	0	0	0	-0.9847
3	1	M4	I	2.196	-0.2083	0	0	0	-0.824
4			J	3.2042	0.3865	0	0	0	0
5	1	M7	I	3.3463	0.4454	0	0	0	0.9847
6			J	1.5658	-0.6072	0	0	0	0
7	1	M9	I	0.3151	0.0927	0	0	0	0
8			J	0.3151	-0.0927	0	0	0	0
9	1	M10	I	0.8972	0.1941	0	0	0	0
10			J	0.8972	-0.1941	0	0	0	0
11	1	M6	I	0.9508	0.0805	0	0	0	0
12			J	0.0505	-0.0821	0	0	0	0.1132
13	1	M8	I	0.9456	0.0815	0	0	0	0
14			J	0.0467	-0.0832	0	0	0	0.1132
15	1	M11	I	1.5832	0	0	0	0	0
16			J	1.5832	0	0	0	0	0
17	1	M12	I	-1.6521	0	0	0	0	0
18			J	-1.6521	0	0	0	0	0
19	2	M3	I	-1.0879	1.0295	0	0	0	0.679
20			J	-1.0855	1.1452	0	0	0	-0.8566
21	2	M4	I	1.7829	-0.2063	0	0	0	-0.679
22			J	2.604	0.2781	0	0	0	0
23	2	M7	I	2.7427	0.3445	0	0	0	0.8566
24			J	1.2206	-0.5554	0	0	0	0
25	2	M9	I	0.0027	0	0	0	0	0
26			J	0.0027	0	0	0	0	0
27	2	M10	I	1.0906	0.7765	0	0	0	0
28			J	1.0906	-0.7765	0	0	0	0
29	2	M6	I	0.0005	-0.0009	0	0	0	0
30			J	-0.0009	0.0015	0	0	0	-0.0044
31	2	M8	I	0.0005	-0.0009	0	0	0	0
32			J	-0.0009	0.0015	0	0	0	-0.0044
33	2	M11	I	0.9504	0	0	0	0	0
34			J	0.9504	0	0	0	0	0
35	2	M12	I	-1.7695	0	0	0	0	0
36			J	-1.7695	0	0	0	0	0
37	3	M3	I	-2.3857	2.4345	0	0	0	1.5489
38			J	-2.3809	2.3856	0	0	0	-1.8866

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
39	3	M4	I	3.9129	-0.4332	0	0	0	-1.5489
40			J	5.8193	0.6947	0	0	0	0
41	3	M7	I	6.1486	0.8081	0	0	0	1.8866
42			J	2.7838	-1.1917	0	0	0	0
43	3	M9	I	0.3178	0.0927	0	0	0	0
44			J	0.3178	-0.0927	0	0	0	0
45	3	M10	I	1.9963	0.9706	0	0	0	0
46			J	1.9963	-0.9706	0	0	0	0
47	3	M6	I	0.9537	0.0791	0	0	0	0
48			J	0.0513	-0.0801	0	0	0	0.1088
49	3	M8	I	0.9437	0.0811	0	0	0	0
50			J	0.0441	-0.0823	0	0	0	0.1088
51	3	M11	I	2.6162	0	0	0	0	0
52			J	2.6162	0	0	0	0	0
53	3	M12	I	-3.5021	0	0	0	0	0
54			J	-3.5021	0	0	0	0	0
55	4	M3	I	-1.301	1.3504	0	0	0	0.824
56			J	-1.3013	1.1857	0	0	0	-0.9847
57	4	M4	I	2.196	-0.2083	0	0	0	-0.824
58			J	3.2042	0.3865	0	0	0	0
59	4	M7	I	3.3463	0.4454	0	0	0	0.9847
60			J	1.5658	-0.6072	0	0	0	0
61	4	M9	I	0.3151	0.0927	0	0	0	0
62			J	0.3151	-0.0927	0	0	0	0
63	4	M10	I	0.8972	0.1941	0	0	0	0
64			J	0.8972	-0.1941	0	0	0	0
65	4	M6	I	0.9508	0.0805	0	0	0	0
66			J	0.0505	-0.0821	0	0	0	0.1132
67	4	M8	I	0.9456	0.0815	0	0	0	0
68			J	0.0467	-0.0832	0	0	0	0.1132
69	4	M11	I	1.5832	0	0	0	0	0
70			J	1.5832	0	0	0	0	0
71	4	M12	I	-1.6521	0	0	0	0	0
72			J	-1.6521	0	0	0	0	0
73	5	M3	I	-2.3857	2.4345	0	0	0	1.5489
74			J	-2.3809	2.3856	0	0	0	-1.8866
75	5	M4	I	3.9129	-0.4332	0	0	0	-1.5489
76			J	5.8193	0.6947	0	0	0	0
77	5	M7	I	6.1486	0.8081	0	0	0	1.8866
78			J	2.7838	-1.1917	0	0	0	0
79	5	M9	I	0.3178	0.0927	0	0	0	0
80			J	0.3178	-0.0927	0	0	0	0
81	5	M10	I	1.9963	0.9706	0	0	0	0
82			J	1.9963	-0.9706	0	0	0	0
83	5	M6	I	0.9537	0.0791	0	0	0	0
84			J	0.0513	-0.0801	0	0	0	0.1088
85	5	M8	I	0.9437	0.0811	0	0	0	0
86			J	0.0441	-0.0823	0	0	0	0.1088
87	5	M11	I	2.6162	0	0	0	0	0
88			J	2.6162	0	0	0	0	0
89	5	M12	I	-3.5021	0	0	0	0	0
90			J	-3.5021	0	0	0	0	0
91	6	M3	I	-2.3722	2.7398	0	0	0	1.727
92			J	-2.3754	2.4544	0	0	0	-1.9905
93	6	M4	I	3.8396	-0.4604	0	0	0	-1.727
94			J	6.0615	0.8536	0	0	0	0
95	6	M7	I	6.2791	0.8869	0	0	0	1.9905
96			J	2.7679	-1.1977	0	0	0	0

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
97	6	M9	I	0.5759	0.0927	0	0	0	0
98			J	0.5759	-0.0927	0	0	0	0
99	6	M10	I	1.6358	0.1941	0	0	0	0
100			J	1.6358	-0.1941	0	0	0	0
101	6	M6	I	1.799	0.16	0	0	0	0
102			J	0.1045	-0.163	0	0	0	0.2252
103	6	M8	I	1.7788	0.1639	0	0	0	0
104			J	0.0897	-0.1672	0	0	0	0.2252
105	6	M11	I	3.3949	0	0	0	0	0
106			J	3.3949	0	0	0	0	0
107	6	M12	I	-3.2547	0	0	0	0	0
108			J	-3.2547	0	0	0	0	0
109	7	M3	I	-2.9163	3.2253	0	0	0	2.0619
110			J	-2.9142	3.0571	0	0	0	-2.4318
111	7	M4	I	4.6923	-0.573	0	0	0	-2.0619
112			J	7.3126	0.9792	0	0	0	0
113	7	M7	I	7.6693	1.055	0	0	0	2.4318
114			J	3.3802	-1.499	0	0	0	0
115	7	M9	I	0.5127	0.0927	0	0	0	0
116			J	0.5127	-0.0927	0	0	0	0
117	7	M10	I	2.2788	0.7765	0	0	0	0
118			J	2.2788	-0.7765	0	0	0	0
119	7	M6	I	1.5899	0.1389	0	0	0	0
120			J	0.0922	-0.1411	0	0	0	0.1939
121	7	M8	I	1.5684	0.1431	0	0	0	0
122			J	0.0764	-0.1456	0	0	0	0.1939
123	7	M11	I	3.7466	0	0	0	0	0
124			J	3.7466	0	0	0	0	0
125	7	M12	I	-4.271	0	0	0	0	0
126			J	-4.271	0	0	0	0	0
127	8	M3	I	-1.5275	1.6368	0	0	0	0.9187
128			J	-1.528	1.4753	0	0	0	-1.1671
129	8	M4	I	1.578	-0.2012	0	0	0	-0.9187
130			J	3.0005	0.4416	0	0	0	0
131	8	M7	I	3.9091	0.5073	0	0	0	1.1671
132			J	1.7983	-0.7128	0	0	0	0
133	8	M9	I	0.3905	0.0927	0	0	0	0
134			J	0.3905	-0.0927	0	0	0	0
135	8	M10	I	0.9525	0.1941	0	0	0	0
136			J	0.9525	-0.1941	0	0	0	0
137	8	M6	I	0.7185	0.1806	0	0	0	0
138			J	-0.0646	-0.1828	0	0	0	0.1468
139	8	M8	I	1.1508	0.0286	0	0	0	0
140			J	0.191	-0.0308	0	0	0	0.1468
141	8	M11	I	1.9627	0	0	0	0	0
142			J	1.9627	0	0	0	0	0
143	8	M12	I	-2.0227	0	0	0	0	0
144			J	-2.0227	0	0	0	0	0
145	9	M3	I	-3.0821	3.4463	0	0	0	2.1385
146			J	-3.0801	3.2807	0	0	0	-2.5746
147	9	M4	I	4.2183	-0.57	0	0	0	-2.1385
148			J	7.1608	1.0243	0	0	0	0
149	9	M7	I	8.0977	1.1039	0	0	0	2.5746
150			J	3.5534	-1.5823	0	0	0	0
151	9	M9	I	0.5695	0.0927	0	0	0	0
152			J	0.5695	-0.0927	0	0	0	0
153	9	M10	I	2.3194	0.7765	0	0	0	0
154			J	2.3194	-0.7765	0	0	0	0

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
155	9	M6	I	1.4163	0.2142	0	0	0	0
156			J	0.006	-0.2168	0	0	0	0.2191
157	9	M8	I	1.7223	0.1033	0	0	0	0
158			J	0.1849	-0.1062	0	0	0	0.2191
159	9	M11	I	4.0423	0	0	0	0	0
160			J	4.0423	0	0	0	0	0
161	9	M12	I	-4.5598	0	0	0	0	0
162			J	-4.5598	0	0	0	0	0
163	10	M3	I	-2.283	2.3769	0	0	0	1.4378
164			J	-2.2798	2.3016	0	0	0	-1.7972
165	10	M4	I	3.0206	-0.3713	0	0	0	-1.4378
166			J	5.0123	0.6584	0	0	0	0
167	10	M7	I	5.8684	0.7635	0	0	0	1.7972
168			J	2.6533	-1.1245	0	0	0	0
169	10	M9	I	0.3738	0.0927	0	0	0	0
170			J	0.3738	-0.0927	0	0	0	0
171	10	M10	I	1.7619	0.7765	0	0	0	0
172			J	1.7619	-0.7765	0	0	0	0
173	10	M6	I	0.7789	0.1546	0	0	0	0
174			J	-0.0352	-0.1561	0	0	0	0.1351
175	10	M8	I	1.0982	0.0415	0	0	0	0
176			J	0.1531	-0.0432	0	0	0	0.1351
177	10	M11	I	2.6413	0	0	0	0	0
178			J	2.6413	0	0	0	0	0
179	10	M12	I	-3.3164	0	0	0	0	0
180			J	-3.3164	0	0	0	0	0
181	11	M3	I	-1.0093	1.0857	0	0	0	0.58
182			J	-1.0095	0.9901	0	0	0	-0.764
183	11	M4	I	0.7138	-0.1142	0	0	0	-0.58
184			J	1.7167	0.281	0	0	0	0
185	11	M7	I	2.5588	0.3254	0	0	0	0.764
186			J	1.1731	-0.464	0	0	0	0
187	11	M9	I	0.2644	0.0556	0	0	0	0
188			J	0.2644	-0.0556	0	0	0	0
189	11	M10	I	0.5928	0.1165	0	0	0	0
190			J	0.5928	-0.1165	0	0	0	0
191	11	M6	I	0.3372	0.1484	0	0	0	0
192			J	-0.0854	-0.15	0	0	0	0.1015
193	11	M8	I	0.7732	-0.004	0	0	0	0
194			J	0.1726	0.0025	0	0	0	0.1015
195	11	M11	I	1.3125	0	0	0	0	0
196			J	1.3125	0	0	0	0	0
197	11	M12	I	-1.3452	0	0	0	0	0
198			J	-1.3452	0	0	0	0	0
199	12	M3	I	-1.4542	1.6254	0	0	0	1.014
200			J	-1.4546	1.457	0	0	0	-1.172
201	12	M4	I	1.7575	-0.2789	0	0	0	-1.014
202			J	3.0715	0.4957	0	0	0	0
203	12	M7	I	3.7757	0.515	0	0	0	1.172
204			J	1.6976	-0.7146	0	0	0	0
205	12	M9	I	0.3847	0.0927	0	0	0	0
206			J	0.3847	-0.0927	0	0	0	0
207	12	M10	I	0.9837	0.1941	0	0	0	0
208			J	0.9837	-0.1941	0	0	0	0
209	12	M6	I	0.8624	0.1095	0	0	0	0
210			J	-0.0028	-0.1141	0	0	0	0.1148
211	12	M8	I	1.0343	0.0526	0	0	0	0
212			J	0.1005	-0.0518	0	0	0	0.1148

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
213	12	M11	I	1.9359	0	0	0	0	0
214			J	1.9359	0	0	0	0	0
215	12	M12	I	-1.9993	0	0	0	0	0
216			J	-1.9993	0	0	0	0	0
217	13	M3	I	-2.2284	2.3684	0	0	0	1.5093
218			J	-2.2251	2.2878	0	0	0	-1.8008
219	13	M4	I	3.1556	-0.4296	0	0	0	-1.5093
220			J	5.0657	0.6991	0	0	0	0
221	13	M7	I	5.7684	0.7693	0	0	0	1.8008
222			J	2.5779	-1.1257	0	0	0	0
223	13	M9	I	0.3694	0.0927	0	0	0	0
224			J	0.3694	-0.0927	0	0	0	0
225	13	M10	I	1.7857	0.7765	0	0	0	0
226			J	1.7857	-0.7765	0	0	0	0
227	13	M6	I	0.8867	0.1013	0	0	0	0
228			J	0.0112	-0.1046	0	0	0	0.1111
229	13	M8	I	1.0107	0.0595	0	0	0	0
230			J	0.0852	-0.0589	0	0	0	0.1111
231	13	M11	I	2.6209	0	0	0	0	0
232			J	2.6209	0	0	0	0	0
233	13	M12	I	-3.2987	0	0	0	0	0
234			J	-3.2987	0	0	0	0	0
235	14	M3	I	-0.9356	1.0742	0	0	0	0.6751
236			J	-0.9358	0.9717	0	0	0	-0.769
237	14	M4	I	0.8928	-0.1918	0	0	0	-0.6751
238			J	1.7876	0.335	0	0	0	0
239	14	M7	I	2.4255	0.3332	0	0	0	0.769
240			J	1.0722	-0.4659	0	0	0	0
241	14	M9	I	0.2587	0.0556	0	0	0	0
242			J	0.2587	-0.0556	0	0	0	0
243	14	M10	I	0.6236	0.1165	0	0	0	0
244			J	0.6236	-0.1165	0	0	0	0
245	14	M6	I	0.4811	0.0774	0	0	0	0
246			J	-0.0235	-0.0813	0	0	0	0.0695
247	14	M8	I	0.6568	0.02	0	0	0	0
248			J	0.0823	-0.0184	0	0	0	0.0695
249	14	M11	I	1.286	0	0	0	0	0
250			J	1.286	0	0	0	0	0
251	14	M12	I	-1.322	0	0	0	0	0
252			J	-1.322	0	0	0	0	0

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N2	max	0	14	4.2704	9	0	14	0	14	0	14	0	14
2		min	0	1	1.2889	14	0	1	0	1	0	1	0	1
3	N8	max	0	14	1.475	5	0	14	0	14	0	14	0	14
4		min	0	1	0.221	14	0	1	0	1	0	1	0	1
5	N1	max	0	7	6.9863	7	0	14	0	14	0	14	0	14
6		min	-0.5467	11	1.6455	11	0	1	0	1	0	1	0	1
7	Totals:	max	0	7	12.3476	9	0	14						
8		min	-0.5467	11	3.2582	11	0	1						

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0	11	0	11	0	14	0	14	0	14	-3.9146e-3	14
2		min	0	7	0	7	0	1	0	1	0	1	-1.303e-2	9
3	N2	max	0.0173	9	0	14	0	14	0	14	0	14	-3.3943e-3	14

RISA A NEMETSCHEK COMPANY

Company : Meier A+E
Designer : TDK
Job Number : 8785
Model Name :

Checked By : _____

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
4		min	0.0052	14	0	9	0	1	0	1	0	1	-1.1062e-2	9
5	N3	max	0.0147	9	-0.0086	14	0	14	0	14	0	14	7.8061e-3	9
6		min	0.0038	2	-0.0298	9	0	1	0	1	0	1	2.277e-3	2
7	N4	max	1.4192	9	-0.258	14	0	14	0	14	0	14	6.2624e-3	7
8		min	0.4323	14	-0.8515	9	0	1	0	1	0	1	9.6358e-4	11
9	N6	max	1.4092	9	0.7964	9	0	14	0	14	0	14	7.0019e-3	7
10		min	0.4296	14	0.243	14	0	1	0	1	0	1	1.3651e-3	11
11	N8	max	0.0087	9	0	14	0	14	0	14	0	14	9.3623e-3	9
12		min	0.0026	14	0	3	0	1	0	1	0	1	2.8427e-3	14
13	N14	max	0.727	9	0.3906	9	0	14	0	14	0	14	6.9714e-3	9
14		min	0.219	2	0.1175	2	0	1	0	1	0	1	2.1398e-3	14
15	N15	max	0.7295	9	-0.1356	2	0	14	0	14	0	14	7.2684e-3	9
16		min	0.219	2	-0.4495	9	0	1	0	1	0	1	2.2298e-3	14
17	N9	max	0.9229	9	-0.166	14	0	14	0	14	0	14	-4.3906e-3	14
18		min	0.279	14	-0.5525	9	0	1	0	1	0	1	-1.4301e-2	9
19	N10	max	0.8655	9	0.4802	9	0	14	0	14	0	14	-4.5481e-3	14
20		min	0.2654	14	0.1474	14	0	1	0	1	0	1	-1.4987e-2	9
21	N11	max	0.0021	9	-0.1621	14	0	14	0	14	0	14	-2.4629e-3	14
22		min	0.0006	14	-0.5401	9	0	1	0	1	0	1	-8.2946e-3	9
23	N12	max	0.0152	9	0.4662	9	0	14	0	14	0	14	-2.0649e-3	2
24		min	0.0046	14	0.1434	14	0	1	0	1	0	1	-7.0493e-3	9

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M3	1	max	-0.9356	14	3.4463	9	0	14	0	14	0	14	2.1385	9
2			min	-3.0821	9	1.0295	2	0	1	0	1	0	1	0.58	11
3		2	max	-0.9403	14	-0.2485	2	0	14	0	14	0	14	-2.2387	14
4			min	-3.1304	9	-0.9466	9	0	1	0	1	0	1	-7.6522	9
5		3	max	-0.9403	14	-0.3872	14	0	14	0	14	0	14	1.8472	5
6			min	-3.1304	9	-1.5466	9	0	1	0	1	0	1	0.328	14
7		4	max	-0.9403	14	-0.2564	14	0	14	0	14	0	14	6.021	9
8			min	-3.1304	9	-0.8765	9	0	1	0	1	0	1	1.6047	2
9		5	max	-0.9358	14	3.2807	9	0	14	0	14	0	14	-0.764	11
10			min	-3.0801	9	0.9717	14	0	1	0	1	0	1	-2.5746	9
11	M4	1	max	4.6923	7	-0.1142	11	0	14	0	14	0	14	-0.58	11
12			min	0.7138	11	-0.573	7	0	1	0	1	0	1	-2.1385	9
13		2	max	4.5348	7	-0.1821	11	0	14	0	14	0	14	-0.1329	14
14			min	0.6811	11	-0.6898	9	0	1	0	1	0	1	-0.4942	9
15		3	max	4.3773	7	-0.2063	2	0	14	0	14	0	14	1.4628	9
16			min	0.6484	11	-0.8096	9	0	1	0	1	0	1	0.3709	11
17		4	max	7.4701	7	1.1441	9	0	14	0	14	0	14	2.8303	9
18			min	1.7494	11	0.2781	2	0	1	0	1	0	1	0.726	2
19		5	max	7.3126	7	1.0243	9	0	14	0	14	0	14	0	14
20			min	1.7167	11	0.2781	2	0	1	0	1	0	1	0	1
21	M7	1	max	8.0977	9	1.1039	9	0	14	0	14	0	14	2.5746	9
22			min	2.4255	14	0.3254	11	0	1	0	1	0	1	0.764	11
23		2	max	7.9378	9	1.0153	9	0	14	0	14	0	14	-0.0427	2
24			min	2.3715	14	0.299	11	0	1	0	1	0	1	-0.2012	7
25		3	max	7.7779	9	0.9267	9	0	14	0	14	0	14	-0.797	11
26			min	2.3175	14	0.2696	14	0	1	0	1	0	1	-2.726	9
27		4	max	3.7133	9	-0.4341	14	0	14	0	14	0	14	-1.1747	14
28			min	1.1262	14	-1.4937	9	0	1	0	1	0	1	-4.0149	9
29		5	max	3.5534	9	-0.464	11	0	14	0	14	0	14	0	14
30			min	1.0722	14	-1.5823	9	0	1	0	1	0	1	0	1
31	M9	1	max	0.5759	6	0.0927	9	0	14	0	14	0	14	0	14
32			min	0.0027	2	0	2	0	1	0	1	0	1	0	1
33		2	max	0.5759	6	0.0463	9	0	14	0	14	0	14	0	2
34			min	0.0027	2	0	2	0	1	0	1	0	1	-0.161	9

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
35		3	max	0.5759	6	0	14	0	14	0	14	0	14	0	2
36			min	0.0027	2	0	1	0	1	0	1	0	1	-0.2146	9
37		4	max	0.5759	6	0	2	0	14	0	14	0	14	0	2
38			min	0.0027	2	-0.0463	1	0	1	0	1	0	1	-0.161	9
39		5	max	0.5759	6	0	2	0	14	0	14	0	14	0	14
40			min	0.0027	2	-0.0927	1	0	1	0	1	0	1	0	1
41	M10	1	max	2.3194	9	0.9706	5	0	14	0	14	0	14	0	14
42			min	0.5928	11	0.1165	11	0	1	0	1	0	1	0	1
43		2	max	2.3194	9	0.4853	5	0	14	0	14	0	14	-0.4239	14
44			min	0.5928	11	0.0582	11	0	1	0	1	0	1	-3.5327	3
45		3	max	2.3194	9	0	14	0	14	0	14	0	14	-0.5652	14
46			min	0.5928	11	0	1	0	1	0	1	0	1	-4.7102	3
47		4	max	2.3194	9	-0.0582	14	0	14	0	14	0	14	-0.4239	14
48			min	0.5928	11	-0.4853	3	0	1	0	1	0	1	-3.5327	3
49		5	max	2.3194	9	-0.1165	14	0	14	0	14	0	14	0	14
50			min	0.5928	11	-0.9706	3	0	1	0	1	0	1	0	1
51	M6	1	max	1.799	6	0.2142	9	0	14	0	14	0	14	0	14
52			min	0.0005	2	-0.0009	2	0	1	0	1	0	1	0	1
53		2	max	1.469	6	0.0239	11	0	14	0	14	0	14	0.0043	2
54			min	0.0005	2	-0.0341	6	0	1	0	1	0	1	-0.4997	9
55		3	max	1.139	6	-0.0009	2	0	14	0	14	0	14	0.3265	6
56			min	0.0005	2	-0.2282	6	0	1	0	1	0	1	-0.2285	11
57		4	max	0.4345	6	0.0312	6	0	14	0	14	0	14	0.0026	2
58			min	-0.0254	11	-0.0254	11	0	1	0	1	0	1	-0.3369	8
59		5	max	0.1045	6	0.0015	2	0	14	0	14	0	14	0.2252	6
60			min	-0.0854	11	-0.2168	9	0	1	0	1	0	1	-0.0044	2
61	M8	1	max	1.7788	6	0.1639	6	0	14	0	14	0	14	0	14
62			min	0.0005	2	-0.004	11	0	1	0	1	0	1	0	1
63		2	max	1.4488	6	-0.0009	2	0	14	0	14	0	14	0.1349	11
64			min	0.0005	2	-0.0592	9	0	1	0	1	0	1	-0.3199	6
65		3	max	1.136	9	-0.0009	2	0	14	0	14	0	14	0.5662	9
66			min	0.0005	2	-0.2243	6	0	1	0	1	0	1	0.0086	2
67		4	max	0.478	9	0.0563	8	0	14	0	14	0	14	0.229	11
68			min	-0.0009	2	0.0015	2	0	1	0	1	0	1	-0.1105	6
69		5	max	0.191	8	0.0025	11	0	14	0	14	0	14	0.2252	6
70			min	-0.0009	2	-0.1672	6	0	1	0	1	0	1	-0.0044	2
71	M11	1	max	4.0423	9	0	14	0	14	0	14	0	14	0	14
72			min	0.9504	2	0	1	0	1	0	1	0	1	0	1
73		2	max	4.0423	9	0	14	0	14	0	14	0	14	0	14
74			min	0.9504	2	0	1	0	1	0	1	0	1	0	1
75		3	max	4.0423	9	0	14	0	14	0	14	0	14	0	14
76			min	0.9504	2	0	1	0	1	0	1	0	1	0	1
77		4	max	4.0423	9	0	14	0	14	0	14	0	14	0	14
78			min	0.9504	2	0	1	0	1	0	1	0	1	0	1
79		5	max	4.0423	9	0	14	0	14	0	14	0	14	0	14
80			min	0.9504	2	0	1	0	1	0	1	0	1	0	1
81	M12	1	max	-1.322	14	0	14	0	14	0	14	0	14	0	14
82			min	-4.5598	9	0	1	0	1	0	1	0	1	0	1
83		2	max	-1.322	14	0	14	0	14	0	14	0	14	0	14
84			min	-4.5598	9	0	1	0	1	0	1	0	1	0	1
85		3	max	-1.322	14	0	14	0	14	0	14	0	14	0	14
86			min	-4.5598	9	0	1	0	1	0	1	0	1	0	1
87		4	max	-1.322	14	0	14	0	14	0	14	0	14	0	14
88			min	-4.5598	9	0	1	0	1	0	1	0	1	0	1
89		5	max	-1.322	14	0	14	0	14	0	14	0	14	0	14
90			min	-4.5598	9	0	1	0	1	0	1	0	1	0	1

	Member		Axial[k]	Loc[ft]	LC	y Shear[k]	Loc[ft]	LC	z Shear[k]	Loc[ft]	LC	Torque[k-ft]	Loc[ft]	LC	y-y Moment[k-ft]	Loc[ft]	LC	z-z Moment[k-ft]	Loc[ft]	LC
1	M3	max	-0.9356	3.4375	14	3.4463	0	9	0	30	14	0	30	14	0	30	14	9.8686	26.25	9
2		min	-3.1304	15	9	-1.5466	15	9	0	0	1	0	0	1	0	0	1	-10.6393	3.75	9
3	M4	max	7.4964	7.3962	7	1.1641	7.3962	9	0	10.4416	14	0	10.4416	14	0	10.4416	14	3.3324	7.3962	9
4		min	0.6225	7.2874	11	-0.9044	7.2874	9	0	0	1	0	0	1	0	0	1	-2.1385	0	9
5	M7	max	8.0977	0	9	1.1039	0	9	0	10.4416	14	0	10.4416	14	0	10.4416	14	2.5746	0	9
6		min	1.0722	10.4416	14	-1.5823	10.4416	9	0	0	1	0	0	1	0	0	1	-4.6616	7.3962	9
7	M9	max	0.5759	9.2653	6	0.0927	0	9	0	9.2653	14	0	9.2653	14	0	9.2653	14	0	9.2653	14
8		min	0.0027	0	2	-0.0927	9.2653	1	0	0	1	0	0	1	0	0	1	-0.2146	4.6327	9
9	M10	max	2.3194	19.4118	9	0.9706	0	5	0	19.4118	14	0	19.4118	14	0	19.4118	14	0	19.4118	14
10		min	0.5928	0	11	-0.9706	19.4118	3	0	0	1	0	0	1	0	0	1	-4.7102	9.7059	3
11	M6	max	1.799	0	6	0.2142	0	9	0	19.143	14	0	19.143	14	0	19.143	14	0.4208	9.9703	6
12		min	-0.0854	19.143	11	-0.2444	9.9703	6	0	0	1	0	0	1	0	0	1	-0.4998	4.5863	9
13	M8	max	1.7788	0	6	0.1984	10.1697	9	0	19.143	14	0	19.143	14	0	19.143	14	0.6573	9.9703	9
14		min	-0.0009	10.1697	2	-0.2405	9.9703	6	0	0	1	0	0	1	0	0	1	-0.331	3.9881	6
15	M11	max	4.0423	6.375	9	0	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14
16		min	0.9504	0	2	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1
17	M12	max	-1.322	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14	0	6.375	14
18		min	-4.5598	0	9	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M3	I	max	-0.9356	14	3.4463	9	0	14	0	14	0	14	2.1385	9
2			min	-3.0821	9	1.0295	2	0	1	0	1	0	1	0.58	11
3		J	max	-0.9358	14	3.2807	9	0	14	0	14	0	14	-0.764	11
4			min	-3.0801	9	0.9717	14	0	1	0	1	0	1	-2.5746	9
5	M4	I	max	4.6923	7	-0.1142	11	0	14	0	14	0	14	-0.58	11
6			min	0.7138	11	-0.573	7	0	1	0	1	0	1	-2.1385	9
7		J	max	7.3126	7	1.0243	9	0	14	0	14	0	14	0	14
8			min	1.7167	11	0.2781	2	0	1	0	1	0	1	0	1
9	M7	I	max	8.0977	9	1.1039	9	0	14	0	14	0	14	2.5746	9
10			min	2.4255	14	0.3254	11	0	1	0	1	0	1	0.764	11
11		J	max	3.5534	9	-0.464	11	0	14	0	14	0	14	0	14
12			min	1.0722	14	-1.5823	9	0	1	0	1	0	1	0	1
13	M9	I	max	0.5759	6	0.0927	9	0	14	0	14	0	14	0	14
14			min	0.0027	2	0	2	0	1	0	1	0	1	0	1
15		J	max	0.5759	6	0	2	0	14	0	14	0	14	0	14
16			min	0.0027	2	-0.0927	1	0	1	0	1	0	1	0	1
17	M10	I	max	2.3194	9	0.9706	5	0	14	0	14	0	14	0	14
18			min	0.5928	11	0.1165	11	0	1	0	1	0	1	0	1
19		J	max	2.3194	9	-0.1165	14	0	14	0	14	0	14	0	14
20			min	0.5928	11	-0.9706	3	0	1	0	1	0	1	0	1
21	M6	I	max	1.799	6	0.2142	9	0	14	0	14	0	14	0	14
22			min	0.0005	2	-0.0009	2	0	1	0	1	0	1	0	1
23		J	max	0.1045	6	0.0015	2	0	14	0	14	0	14	0.2252	6
24			min	-0.0854	11	-0.2168	9	0	1	0	1	0	1	-0.0044	2
25	M8	I	max	1.7788	6	0.1639	6	0	14	0	14	0	14	0	14
26			min	0.0005	2	-0.004	11	0	1	0	1	0	1	0	1
27		J	max	0.191	8	0.0025	11	0	14	0	14	0	14	0.2252	6
28			min	-0.0009	2	-0.1672	6	0	1	0	1	0	1	-0.0044	2
29	M11	I	max	4.0423	9	0	14	0	14	0	14	0	14	0	14
30			min	0.9504	2	0	1	0	1	0	1	0	1	0	1
31		J	max	4.0423	9	0	14	0	14	0	14	0	14	0	14
32			min	0.9504	2	0	1	0	1	0	1	0	1	0	1
33	M12	I	max	-1.322	14	0	14	0	14	0	14	0	14	0	14
34			min	-4.5598	9	0	1	0	1	0	1	0	1	0	1
35		J	max	-1.322	14	0	14	0	14	0	14	0	14	0	14
36			min	-4.5598	9	0	1	0	1	0	1	0	1	0	1

	Member	Sec		Torque[k-ft]	LC	Torsion Shear[ksi]	LC	y-y Warp Shear[ksi]	z-z Warp Shear[ksi]	z-Top Warp Bend[ksi]	z-Bot Warp Bend[ksi]
1	M3	1	max	0	14	0	14	NC	NC	NC	NC
2			min	0	1	0	1	NC	NC	NC	NC
3		2	max	0	14	0	14	NC	NC	NC	NC
4			min	0	1	0	1	NC	NC	NC	NC
5		3	max	0	14	0	14	NC	NC	NC	NC
6			min	0	1	0	1	NC	NC	NC	NC
7		4	max	0	14	0	14	NC	NC	NC	NC
8			min	0	1	0	1	NC	NC	NC	NC
9		5	max	0	14	0	14	NC	NC	NC	NC
10			min	0	1	0	1	NC	NC	NC	NC
11	M4	1	max	0	14	0	14	NC	NC	NC	NC
12			min	0	1	0	1	NC	NC	NC	NC
13		2	max	0	14	0	14	NC	NC	NC	NC
14			min	0	1	0	1	NC	NC	NC	NC
15		3	max	0	14	0	14	NC	NC	NC	NC
16			min	0	1	0	1	NC	NC	NC	NC
17		4	max	0	14	0	14	NC	NC	NC	NC
18			min	0	1	0	1	NC	NC	NC	NC
19		5	max	0	14	0	14	NC	NC	NC	NC
20			min	0	1	0	1	NC	NC	NC	NC
21	M7	1	max	0	14	0	14	NC	NC	NC	NC
22			min	0	1	0	1	NC	NC	NC	NC
23		2	max	0	14	0	14	NC	NC	NC	NC
24			min	0	1	0	1	NC	NC	NC	NC
25		3	max	0	14	0	14	NC	NC	NC	NC
26			min	0	1	0	1	NC	NC	NC	NC
27		4	max	0	14	0	14	NC	NC	NC	NC
28			min	0	1	0	1	NC	NC	NC	NC
29		5	max	0	14	0	14	NC	NC	NC	NC
30			min	0	1	0	1	NC	NC	NC	NC
31	M9	1	max	0	14	0	14	NC	NC	NC	NC
32			min	0	1	0	1	NC	NC	NC	NC
33		2	max	0	14	0	14	NC	NC	NC	NC
34			min	0	1	0	1	NC	NC	NC	NC
35		3	max	0	14	0	14	NC	NC	NC	NC
36			min	0	1	0	1	NC	NC	NC	NC
37		4	max	0	14	0	14	NC	NC	NC	NC
38			min	0	1	0	1	NC	NC	NC	NC
39		5	max	0	14	0	14	NC	NC	NC	NC
40			min	0	1	0	1	NC	NC	NC	NC
41	M10	1	max	0	14	0	14	NC	NC	NC	NC
42			min	0	1	0	1	NC	NC	NC	NC
43		2	max	0	14	0	14	NC	NC	NC	NC
44			min	0	1	0	1	NC	NC	NC	NC
45		3	max	0	14	0	14	NC	NC	NC	NC
46			min	0	1	0	1	NC	NC	NC	NC
47		4	max	0	14	0	14	NC	NC	NC	NC
48			min	0	1	0	1	NC	NC	NC	NC
49		5	max	0	14	0	14	NC	NC	NC	NC
50			min	0	1	0	1	NC	NC	NC	NC
51	M6	1	max	0	14	0	14	NC	NC	NC	NC
52			min	0	1	0	1	NC	NC	NC	NC
53		2	max	0	14	0	14	NC	NC	NC	NC
54			min	0	1	0	1	NC	NC	NC	NC
55		3	max	0	14	0	14	NC	NC	NC	NC
56			min	0	1	0	1	NC	NC	NC	NC
57		4	max	0	14	0	14	NC	NC	NC	NC
58			min	0	1	0	1	NC	NC	NC	NC

	Member	Sec		Torque[k-ft]	LC	Torsion Shear[ksi]	LC	y-y Warp Shear[ksi]	z-z Warp Shear[ksi]	z-Top Warp Bend[ksi]	z-Bot Warp Bend[ksi]
59		5	max	0	14	0	14	NC	NC	NC	NC
60			min	0	1	0	1	NC	NC	NC	NC
61	M8	1	max	0	14	0	14	NC	NC	NC	NC
62			min	0	1	0	1	NC	NC	NC	NC
63		2	max	0	14	0	14	NC	NC	NC	NC
64			min	0	1	0	1	NC	NC	NC	NC
65		3	max	0	14	0	14	NC	NC	NC	NC
66			min	0	1	0	1	NC	NC	NC	NC
67		4	max	0	14	0	14	NC	NC	NC	NC
68			min	0	1	0	1	NC	NC	NC	NC
69		5	max	0	14	0	14	NC	NC	NC	NC
70			min	0	1	0	1	NC	NC	NC	NC
71	M11	1	max	0	14	0	14	NC	NC	NC	NC
72			min	0	1	0	1	NC	NC	NC	NC
73		2	max	0	14	0	14	NC	NC	NC	NC
74			min	0	1	0	1	NC	NC	NC	NC
75		3	max	0	14	0	14	NC	NC	NC	NC
76			min	0	1	0	1	NC	NC	NC	NC
77		4	max	0	14	0	14	NC	NC	NC	NC
78			min	0	1	0	1	NC	NC	NC	NC
79		5	max	0	14	0	14	NC	NC	NC	NC
80			min	0	1	0	1	NC	NC	NC	NC
81	M12	1	max	0	14	0	14	NC	NC	NC	NC
82			min	0	1	0	1	NC	NC	NC	NC
83		2	max	0	14	0	14	NC	NC	NC	NC
84			min	0	1	0	1	NC	NC	NC	NC
85		3	max	0	14	0	14	NC	NC	NC	NC
86			min	0	1	0	1	NC	NC	NC	NC
87		4	max	0	14	0	14	NC	NC	NC	NC
88			min	0	1	0	1	NC	NC	NC	NC
89		5	max	0	14	0	14	NC	NC	NC	NC
90			min	0	1	0	1	NC	NC	NC	NC

	Member	Sec		Axial[ksi]	LC	y Shear[ksi]	LC	z Shear[ksi]	LC	y-Top[ksi]	LC	y-Bot[ksi]	LC	z-Top[ksi]	LC	z-Bot[ksi]	LC
1	M3	1	max	-0.0188	14	0.1036	9	0	14	-0.0881	11	0.325	9	0	14	0	14
2			min	-0.0618	9	0.031	2	0	1	-0.325	9	0.0881	11	0	1	0	1
3		2	max	-0.0189	14	-0.0075	2	0	14	1.1628	9	-0.3402	14	0	14	0	14
4			min	-0.0628	9	-0.0285	9	0	1	0.3402	14	-1.1628	9	0	1	0	1
5		3	max	-0.0189	14	-0.0116	14	0	14	-0.0498	14	0.2807	5	0	14	0	14
6			min	-0.0628	9	-0.0465	9	0	1	-0.2807	3	0.0498	14	0	1	0	1
7		4	max	-0.0189	14	-0.0077	14	0	14	-0.2438	2	0.9149	9	0	14	0	14
8			min	-0.0628	9	-0.0264	9	0	1	-0.9149	9	0.2438	2	0	1	0	1
9		5	max	-0.0188	14	0.0987	9	0	14	0.3912	9	-0.1161	11	0	14	0	14
10			min	-0.0618	9	0.0292	14	0	1	0.1161	11	-0.3912	9	0	1	0	1
11	M4	1	max	0.1411	7	-0.0052	11	0	14	0.4874	9	-0.1322	11	0	14	0	14
12			min	0.0215	11	-0.0258	7	0	1	0.1322	11	-0.4874	9	0	1	0	1
13		2	max	0.1364	7	-0.0082	11	0	14	0.1126	9	-0.0303	14	0	14	0	14
14			min	0.0205	11	-0.0311	9	0	1	0.0303	14	-0.1126	9	0	1	0	1
15		3	max	0.1316	7	-0.0093	2	0	14	-0.0846	11	0.3334	9	0	14	0	14
16			min	0.0195	11	-0.0365	9	0	1	-0.3334	9	0.0846	11	0	1	0	1
17		4	max	0.2247	7	0.0516	9	0	14	-0.1655	2	0.6451	9	0	14	0	14
18			min	0.0526	11	0.0125	2	0	1	-0.6451	9	0.1655	2	0	1	0	1
19		5	max	0.2199	7	0.0462	9	0	14	0	14	0	14	0	14	0	14
20			min	0.0516	11	0.0125	2	0	1	0	1	0	1	0	1	0	1
21	M7	1	max	0.2435	9	0.0498	9	0	14	-0.1742	11	0.5869	9	0	14	0	14
22			min	0.0729	14	0.0147	11	0	1	-0.5869	9	0.1742	11	0	1	0	1
23		2	max	0.2387	9	0.0458	9	0	14	0.0459	7	-0.0097	2	0	14	0	14

	Member	Sec		Axial[ksi]	LC	y Shear[ksi]	LC	z Shear[ksi]	LC	y-Top[ksi]	LC	y-Bot[ksi]	LC	z-Top[ksi]	LC	z-Bot[ksi]	LC
24			min	0.0713	14	0.0135	11	0	1	0.0097	2	-0.0459	7	0	1	0	1
25		3	max	0.2339	9	0.0418	9	0	14	0.6214	9	-0.1817	11	0	14	0	14
26			min	0.0697	14	0.0122	14	0	1	0.1817	11	-0.6214	9	0	1	0	1
27		4	max	0.1117	9	-0.0196	14	0	14	0.9151	9	-0.2678	14	0	14	0	14
28			min	0.0339	14	-0.0674	9	0	1	0.2678	14	-0.9151	9	0	1	0	1
29		5	max	0.1069	9	-0.0209	11	0	14	0	14	0	14	0	14	0	14
30			min	0.0322	14	-0.0714	9	0	1	0	1	0	1	0	1	0	1
31	M9	1	max	0.0299	6	0.0072	9	0	14	0	14	0	14	0	14	0	14
32			min	0.0001	2	0	2	0	1	0	1	0	1	0	1	0	1
33		2	max	0.0299	6	0.0036	9	0	14	0.1095	9	0	2	0	14	0	14
34			min	0.0001	2	0	2	0	1	0	2	-0.1095	9	0	1	0	1
35		3	max	0.0299	6	0	14	0	14	0.1459	9	0	2	0	14	0	14
36			min	0.0001	2	0	1	0	1	0	2	-0.1459	9	0	1	0	1
37		4	max	0.0299	6	0	2	0	14	0.1095	9	0	2	0	14	0	14
38			min	0.0001	2	-0.0036	1	0	1	0	2	-0.1095	9	0	1	0	1
39		5	max	0.0299	6	0	2	0	14	0	14	0	14	0	14	0	14
40			min	0.0001	2	-0.0072	1	0	1	0	1	0	1	0	1	0	1
41	M10	1	max	0.0558	9	0.035	5	0	14	0	14	0	14	0	14	0	14
42			min	0.0143	11	0.0042	11	0	1	0	1	0	1	0	1	0	1
43		2	max	0.0558	9	0.0175	5	0	14	0.5153	5	-0.0618	14	0	14	0	14
44			min	0.0143	11	0.0021	11	0	1	0.0618	11	-0.5153	3	0	1	0	1
45		3	max	0.0558	9	0	14	0	14	0.6871	5	-0.0825	14	0	14	0	14
46			min	0.0143	11	0	1	0	1	0.0825	11	-0.6871	3	0	1	0	1
47		4	max	0.0558	9	-0.0021	14	0	14	0.5153	5	-0.0618	14	0	14	0	14
48			min	0.0143	11	-0.0175	3	0	1	0.0618	11	-0.5153	3	0	1	0	1
49		5	max	0.0558	9	-0.0042	14	0	14	0	14	0	14	0	14	0	14
50			min	0.0143	11	-0.035	3	0	1	0	1	0	1	0	1	0	1
51	M6	1	max	0.0541	6	0.0097	9	0	14	0	14	0	14	0	14	0	14
52			min	0	2	0	2	0	1	0	1	0	1	0	1	0	1
53		2	max	0.0442	6	0.0011	11	0	14	0.1139	9	0.001	2	0	14	0	14
54			min	0	2	-0.0015	6	0	1	-0.001	2	-0.1139	9	0	1	0	1
55		3	max	0.0343	6	0	2	0	14	0.0521	11	0.0744	6	0	14	0	14
56			min	0	2	-0.0103	6	0	1	-0.0744	6	-0.0521	11	0	1	0	1
57		4	max	0.0131	6	0.0014	6	0	14	0.0768	8	0.0006	2	0	14	0	14
58			min	-0.0008	11	-0.0011	11	0	1	-0.0006	2	-0.0768	8	0	1	0	1
59		5	max	0.0031	6	0	2	0	14	0.001	2	0.0513	6	0	14	0	14
60			min	-0.0026	11	-0.0098	9	0	1	-0.0513	6	-0.001	2	0	1	0	1
61	M8	1	max	0.0535	6	0.0074	6	0	14	0	14	0	14	0	14	0	14
62			min	0	2	-0.0002	11	0	1	0	1	0	1	0	1	0	1
63		2	max	0.0436	6	0	2	0	14	0.0729	6	0.0307	11	0	14	0	14
64			min	0	2	-0.0027	9	0	1	-0.0307	11	-0.0729	6	0	1	0	1
65		3	max	0.0342	9	0	2	0	14	-0.002	2	0.1291	9	0	14	0	14
66			min	0	2	-0.0101	6	0	1	-0.1291	9	0.002	2	0	1	0	1
67		4	max	0.0144	9	0.0025	8	0	14	0.0252	6	0.0522	11	0	14	0	14
68			min	0	2	0	2	0	1	-0.0522	11	-0.0252	6	0	1	0	1
69		5	max	0.0057	8	0.0001	11	0	14	0.001	2	0.0513	6	0	14	0	14
70			min	0	2	-0.0075	6	0	1	-0.0513	6	-0.001	2	0	1	0	1
71	M11	1	max	0.21	9	0	14	0	14	0	14	0	14	0	14	0	14
72			min	0.0494	2	0	1	0	1	0	1	0	1	0	1	0	1
73		2	max	0.21	9	0	14	0	14	0	14	0	14	0	14	0	14
74			min	0.0494	2	0	1	0	1	0	1	0	1	0	1	0	1
75		3	max	0.21	9	0	14	0	14	0	14	0	14	0	14	0	14
76			min	0.0494	2	0	1	0	1	0	1	0	1	0	1	0	1
77		4	max	0.21	9	0	14	0	14	0	14	0	14	0	14	0	14
78			min	0.0494	2	0	1	0	1	0	1	0	1	0	1	0	1
79		5	max	0.21	9	0	14	0	14	0	14	0	14	0	14	0	14
80			min	0.0494	2	0	1	0	1	0	1	0	1	0	1	0	1
81	M12	1	max	-0.0687	14	0	14	0	14	0	14	0	14	0	14	0	14

RISA A NEMETSCHEK COMPANY

Company : Meier A+E
Designer : TDK
Job Number : 8785
Model Name :

Checked By : _____

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	Member	Sec		Axial[ksi]	LC	y Shear[ksi]	LC	z Shear[ksi]	LC	y-Top[ksi]	LC	y-Bot[ksi]	LC	z-Top[ksi]	LC	z-Bot[ksi]	LC
82			min	-0.2369	9	0	1	0	1	0	1	0	1	0	1	0	1
83		2	max	-0.0687	14	0	14	0	14	0	14	0	14	0	14	0	14
84			min	-0.2369	9	0	1	0	1	0	1	0	1	0	1	0	1
85		3	max	-0.0687	14	0	14	0	14	0	14	0	14	0	14	0	14
86			min	-0.2369	9	0	1	0	1	0	1	0	1	0	1	0	1
87		4	max	-0.0687	14	0	14	0	14	0	14	0	14	0	14	0	14
88			min	-0.2369	9	0	1	0	1	0	1	0	1	0	1	0	1
89		5	max	-0.0687	14	0	14	0	14	0	14	0	14	0	14	0	14
90			min	-0.2369	9	0	1	0	1	0	1	0	1	0	1	0	1

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	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
1	M3	1	max	0.3125	-0.0014	NC	2
2		1	min	2.1875	-0.0281	1602	9
3		2	max	14.6875	-0.0063	NC	14
4		2	min	8.4375	-0.3195	422	9
5		3	max	15.3125	0.0067	NC	14
6		3	min	21.5625	0.2705	499	9
7		4	max	29.6875	0.0011	NC	14
8		4	min	27.8125	0.024	1874	9
9	M4	1	max	0.6526	-0.001	NC	2
10		1	min	5.6559	0.0341	2606	9
11		2	max	7.8312	-0.0013	NC	6
12		2	min	10.4416	-0.1364	536	9
13	M7	1	max	0.3263	-0.001	NC	5
14		1	min	5.0033	-0.0626	1418	9
15		2	max	7.6137	-0.0012	NC	7
16		2	min	10.4416	0.2277	321	9
17	M9	1	max	9.1688	-0.0011	NC	14
18		1	min	4.6327	-0.0526	2115	7
19	M10	1	max	19.2096	-0.002	NC	14
20		1	min	9.7059	-0.5032	463	3
21	M6	1	max	5.384	0.001	NC	2
22		1	min	8.3751	-0.0759	3024	8
23	M8	1	max	5.384	0.001	NC	2
24		1	min	9.9703	0.0739	3108	11

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	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Fc' [ksi]	Ft' [ksi]	Fb1' [ksi]	Fb2' [ksi]	Fv' [ksi]	RB	CL	CP	Eqn
1	M3	3-1.75X9.5FS	0.5453	3.75	7	0.388	0	y	7	1.4372	1.875	2.9228	2.925	0.25	2.0337	0.9993	0.5896	3.9-1
2	M4	2-1.75X9.5FS	0.277	7.3962	7	0.1962	7.3962	y	7	1.3406	1.875	2.9031	2.925	0.25	6.1012	0.9925	0.55	3.9-3
3	M7	2-1.75X9.5FS	0.3742	7.3962	5	0.2705	10.4416	y	7	1.0995	1.5	2.3263	2.34	0.25	6.1012	0.9942	0.5639	3.9-3
4	M9	2-1.75X5.5FS	0.07	4.6327	4	0.0401	9.2653	y	4	0.9478	1.35	2.0999	2.106	0.18	4.6423	0.9971	0.54	3.9-3
5	M10	2-1.75X11.875FS	0.2984	9.7059	5	0.1751	19.4118	y	5	1.0317	1.5	2.3225	2.34	0.2	6.8213	0.9925	0.5291	3.9-3
6	M6	2-1.75X9.5FS	0.0854	0	6	0.0441	9.9703	y	6	0.6338	1.875	2.8079	2.8125	0.25	3.0506	0.9984	0.26	3.6.3
7	M8	2-1.75X9.5FS	0.0424	9.9703	9	0.0434	9.9703	y	6	1.7502	2.4	3.5658	3.6	0.25	6.1012	0.9905	0.5609	3.9-3
8	M11	2-1.75X5.5FS	0.3126	6.375	9	0	6.375	z	14	0.6717	2.4	3.5688	3.6	0.32	5.8606	0.9913	0.2153	3.6.3
9	M12	2-1.75X5.5FS	0.1213	6.375	5	0	6.375	z	14	0.6342	1.5	2.2385	2.25	0.32	5.8606	0.9949	0.3252	3.9-1

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Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Double Shear Bolt Connection with Steel Side Plates per NDS 2018 Section 12.3

Reference Detail 3/S502

$D := 0.5\ in$ Bolt diameter

$F_{yb} := 45000\ psi$ Dowel bending yield strength

$F_{e.para} := 5600\ psi$
$F_{e.perp} := 3150\ psi$ Dowel bearing strength in wood parallel and perpendicular to grain

$\theta := 30\ °$ Angle between direction of load and direction of grain

$F_{em} := \frac{F_{e.para} \cdot F_{e.perp}}{F_{e.para} \cdot \sin(\theta)^2 + F_{e.perp} \cdot \cos(\theta)^2} = 4688.37\ psi$ Dowel bearing strength in wood at θ

$F_{es} := 58000\ psi$ Dowel bearing strength in A36 steel

$R_e := \frac{F_{em}}{F_{es}} = 0.08$

$l_m := 1.75\ in$ Main member dowel bearing length

$l_s := 0.125\ in$ Side member dowel bearing length

$R_{d.I} := 4 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 4.33$ Reduction term for Yield Mode I (see Table 12.3.1B)

$R_{d.IV} := 3.2 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 3.47$ Reduction term for Yield Mode III and IV (see Table 12.3.1B)

$k_3 := -1 + \sqrt{\frac{2\ (1+R_e)}{R_e} + \frac{2 \cdot F_{yb} \cdot (2+R_e) \cdot D^2}{3 \cdot F_{em} \cdot l_s^2}} = 14.48$

Yield Limit Equations for Double Shear Connections

$Z_{Im} := \frac{D \cdot l_m \cdot F_{em}}{R_{d.I}} = 946.69\ lbf$ Yield Mode Im

$Z_{Is} := \frac{2 \cdot D \cdot l_s \cdot F_{es}}{R_{d.I}} = 1673.08\ lbf$ Yield Mode Is

$Z_{IIIs} := \frac{2 \cdot k_3 \cdot D \cdot l_s \cdot F_{em}}{(2+R_e) \cdot R_{d.IV}} = 1176.78\ lbf$ Yield Mode IIIs

$Z_{IV} := \frac{2 \cdot D^2}{R_{d.IV}} \cdot \sqrt{\frac{2 \cdot F_{em} \cdot F_{yb}}{3 \cdot (1+R_e)}} = 1645.32\ lbf$ Yield Mode IV

$Z := min(Z_{Im}, Z_{Is}, Z_{IIIs}, Z_{IV}) = 946.69\ lbf$ Controlling Lateral Design Value

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Lateral Load Adjustment Factors for Dowel-Type Fasteners:

$C_D := 1.15 \quad C_M := 1 \quad C_t := 1 \quad C_\Delta := 1$ Adjustment factors per NDS 2018

Find the Group Action Factor:

$n := 2$ Number of fasteners per row

$E_m := 900\ ksi$ Modulus of elasticity of main member

$E_s := 29000\ ksi$ Modulus of elasticity of side member

$A_m := 15.75\ in^2$ Gross cross sectional area of main member

$A_s := 2.25\ in^2$ Gross cross sectional area of side members

$$R_{EA} := min\left(\frac{E_s \cdot A_s}{E_m \cdot A_m}, \frac{E_m \cdot A_m}{E_s \cdot A_s}\right) = 0.22$$

$$D_0 := \frac{D}{in} = 0.5$$

$$\gamma := \left(270000 \cdot D_0^{1.5}\right) \frac{lbf}{in} = 95459.42 \frac{lbf}{in}$$ load/slip modulus for dowel-type fasteners in wood to metal connections

$s := 3.5\ in$ center to center spacing of fasteners in a row

$$u := 1 + \gamma \cdot \left(\frac{s}{2}\right) \cdot \left(\frac{1}{E_m \cdot A_m} + \frac{1}{E_s \cdot A_s}\right) = 1.01$$

$$m := u - \sqrt{u^2 - 1} = 0.84$$

$$C_g := \frac{m \cdot \left(1 - m^{2n}\right)}{n \cdot \left(\left(1 + R_{EA} \cdot m^n\right)\left(1 + m\right) - 1 + m^{2n}\right)} \cdot \frac{1 + R_{EA}}{1 - m} = 0.99$$

$Z' := Z \cdot C_D \cdot C_M \cdot C_t \cdot C_g \cdot C_\Delta = 1078.88\ lbf$

$F := 1150\ lbf$ From RISA

$n_{row} := 1$ Number of rows

$n_{bolt} := n \cdot n_{row} = 2$ Total bolts in each member

$n_{req} := \frac{F}{Z'} = 1.07$ Since n(req) is < n(bolt), connection ok

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Double Shear Bolt Connection with Steel Side Plates per NDS 2018

Reference Detail 2/S502

$D := 0.5\ in$ Bolt diameter

$F_{yb} := 45000\ psi$ Dowel bending yield strength

$F_{e.para} := 5600\ psi$
$F_{e.perp} := 3150\ psi$ Dowel bearing strength in wood parallel and perpendicular to grain

$\theta := 60\ °$ Angle between direction of load and direction of grain

$F_{em} := \frac{F_{e.para} \cdot F_{e.perp}}{F_{e.para} \cdot \sin(\theta)^2 + F_{e.perp} \cdot \cos(\theta)^2} = 3536.84\ psi$ Dowel bearing strength in wood at θ

$F_{es} := 58000\ psi$ Dowel bearing strength in A36 steel

$R_e := \frac{F_{em}}{F_{es}} = 0.06$

$l_m := 1.75\ in$ Main member dowel bearing length

$l_s := 0.125\ in$ Side member dowel bearing length

$R_{d.I} := 4 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 4.67$ Reduction term for Yield Mode I (see Table 12.3.1B)

$R_{d.IV} := 3.2 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 3.73$ Reduction term for Yield Mode III and IV (see Table 12.3.1B)

$k_3 := -1 + \sqrt{\frac{2\ (1 + R_e)}{R_e} + \frac{2 \cdot F_{yb} \cdot (2 + R_e) \cdot D^2}{3 \cdot F_{em} \cdot l_s^2}} = 16.73$

Yield Limit Equations for Double Shear Connections

$Z_{Im} := \frac{D \cdot l_m \cdot F_{em}}{R_{d.I}} = 663.16\ lbf$ Yield Mode Im

$Z_{Is} := \frac{2 \cdot D \cdot l_s \cdot F_{es}}{R_{d.I}} = 1553.57\ lbf$ Yield Mode Is

$Z_{IIIs} := \frac{2 \cdot k_3 \cdot D \cdot l_s \cdot F_{em}}{(2 + R_e) \cdot R_{d.IV}} = 961.52\ lbf$ Yield Mode IIIs

$Z_{IV} := \frac{2 \cdot D^2}{R_{d.IV}} \cdot \sqrt{\frac{2 \cdot F_{em} \cdot F_{yb}}{3 \cdot (1 + R_e)}} = 1339.33\ lbf$ Yield Mode IV

$Z := min(Z_{Im}, Z_{Is}, Z_{IIIs}, Z_{IV}) = 663.16\ lbf$ Controlling Lateral Design Value

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Lateral Load Adjustment Factors for Dowel-Type Fasteners:

$C_D := 1.6$ $C_M := 1$ $C_t := 1$ $C_\Delta := 1$ $C_g := 1$ Adjustment factors per NDS 2018

$Z' := Z \cdot C_D \cdot C_M \cdot C_t \cdot C_g \cdot C_\Delta = 1061.05$ ***lbf***

$F := 1015$ ***lbf*** From RISA

$n_{req} := \frac{F}{Z'} = 0.96$ Provide 2 bolts in each member.

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Double Shear Bolt Connection with Steel Side Plates per NDS 2018

Reference Detail 1/S501

$D := 0.5\ in$ Bolt diameter

$F_{yb} := 45000\ psi$ Dowel bending yield strength

$F_{e.para} := 5600\ psi$
$F_{e.perp} := 3150\ psi$ Dowel bearing strength in wood parallel and perpendicular to grain

$\theta := 90\ °$ Angle between direction of load and direction of grain

$F_{em} := \frac{F_{e.para} \cdot F_{e.perp}}{F_{e.para} \cdot \sin(\theta)^2 + F_{e.perp} \cdot \cos(\theta)^2} = 3150\ psi$ Dowel bearing strength in wood at θ

$F_{es} := 58000\ psi$ Dowel bearing strength in A36 steel

$R_e := \frac{F_{em}}{F_{es}} = 0.05$

$l_m := 1.75\ in$ Main member dowel bearing length

$l_s := 0.125\ in$ Side member dowel bearing length

$R_{d.I} := 4 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 5$ Reduction term for Yield Mode I (see Table 12.3.1B)

$R_{d.IV} := 3.2 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 4$ Reduction term for Yield Mode III and IV (see Table 12.3.1B)

$k_3 := -1 + \sqrt{\frac{2\ (1 + R_e)}{R_e} + \frac{2 \cdot F_{yb} \cdot (2 + R_e) \cdot D^2}{3 \cdot F_{em} \cdot l_s^2}} = 17.76$

Yield Limit Equations for Double Shear Connections

$Z_{Im} := \frac{D \cdot l_m \cdot F_{em}}{R_{d.I}} = 551.25\ lbf$ Yield Mode Im

$Z_{Is} := \frac{2 \cdot D \cdot l_s \cdot F_{es}}{R_{d.I}} = 1450\ lbf$ Yield Mode Is

$Z_{IIIs} := \frac{2 \cdot k_3 \cdot D \cdot l_s \cdot F_{em}}{(2 + R_e) \cdot R_{d.IV}} = 850.92\ lbf$ Yield Mode IIIs

$Z_{IV} := \frac{2 \cdot D^2}{R_{d.IV}} \cdot \sqrt{\frac{2 \cdot F_{em} \cdot F_{yb}}{3 \cdot (1 + R_e)}} = 1183.43\ lbf$ Yield Mode IV

$Z := min(Z_{Im}, Z_{Is}, Z_{IIIs}, Z_{IV}) = 551.25\ lbf$ Controlling Lateral Design Value

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Lateral Load Adjustment Factors for Dowel-Type Fasteners:

$C_D := 1.6$ $C_M := 1$ $C_t := 1$ $C_\Delta := 1$ $C_g := 1$ Adjustment factors per NDS 2018

$Z' := Z \cdot C_D \cdot C_M \cdot C_t \cdot C_g \cdot C_\Delta = 882\ lbf$

$F := 1034\ lbf$ From RISA

$n_{req} := \frac{F}{Z'} = 1.17$ Provide 2 bolts in each member.

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Double Shear Bolt Connection with Steel Side Plates per NDS 2018

Reference Detail 1/S502

$D := 0.5\ in$ Bolt diameter

$F_{yb} := 45000\ psi$ Dowel bending yield strength

$F_{e.para} := 5600\ psi$
$F_{e.perp} := 3150\ psi$ Dowel bearing strength in wood parallel and perpendicular to grain

$\theta := 0\ °$ Angle between direction of load and direction of grain

$F_{em} := \frac{F_{e.para} \cdot F_{e.perp}}{F_{e.para} \cdot \sin(\theta)^2 + F_{e.perp} \cdot \cos(\theta)^2} = 5600\ psi$ Dowel bearing strength in wood at θ

$F_{es} := 58000\ psi$ Dowel bearing strength in A36 steel

$R_e := \frac{F_{em}}{F_{es}} = 0.1$

$l_m := 1.75\ in$ Main member dowel bearing length

$l_s := 0.125\ in$ Side member dowel bearing length

$R_{d.I} := 4 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 4$ Reduction term for Yield Mode I (see Table 12.3.1B)

$R_{d.IV} := 3.2 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 3.2$ Reduction term for Yield Mode III and IV (see Table 12.3.1B)

$k_3 := -1 + \sqrt{\frac{2 \cdot (1 + R_e)}{R_e} + \frac{2 \cdot F_{yb} \cdot (2 + R_e) \cdot D^2}{3 \cdot F_{em} \cdot l_s^2}} = 13.23$

Yield Limit Equations for Double Shear Connections

$Z_{Im} := \frac{D \cdot l_m \cdot F_{em}}{R_{d.I}} = 1225\ lbf$ Yield Mode Im

$Z_{Is} := \frac{2 \cdot D \cdot l_s \cdot F_{es}}{R_{d.I}} = 1812.5\ lbf$ Yield Mode Is

$Z_{IIIs} := \frac{2 \cdot k_3 \cdot D \cdot l_s \cdot F_{em}}{(2 + R_e) \cdot R_{d.IV}} = 1380.12\ lbf$ Yield Mode IIIs

$Z_{IV} := \frac{2 \cdot D^2}{R_{d.IV}} \cdot \sqrt{\frac{2 \cdot F_{em} \cdot F_{yb}}{3 \cdot (1 + R_e)}} = 1934.02\ lbf$ Yield Mode IV

$Z := min(Z_{Im}, Z_{Is}, Z_{IIIs}, Z_{IV}) = 1225\ lbf$ Controlling Lateral Design Value

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Lateral Load Adjustment Factors for Dowel-Type Fasteners:

$C_D := 1.15 \quad C_M := 1 \quad C_t := 1 \quad C_\Delta := 1$ Adjustment factors per NDS 2018

Find the Group Action Factor:

$n := 2$ Number of fasteners per row

$E_m := 900\ ksi$ Modulus of elasticity of main member

$E_s := 29000\ ksi$ Modulus of elasticity of side member

$A_m := 20.78\ in^2$ Gross cross sectional area of main member

$A_s := 1\ in^2$ Gross cross sectional area of side members

$$R_{EA} := min\left(\frac{E_s \cdot A_s}{E_m \cdot A_m}, \frac{E_m \cdot A_m}{E_s \cdot A_s}\right) = 0.64$$

$$D_0 := \frac{D}{in} = 0.5$$

$$\gamma := \left(270000 \cdot D_0^{1.5}\right) \frac{lbf}{in} = 95459.42 \frac{lbf}{in}$$ load/slip modulus for dowel-type fasteners in wood to metal connections

$s := 2\ in$ center to center spacing of fasteners in a row

$$u := 1 + \gamma \cdot \left(\frac{s}{2}\right) \cdot \left(\frac{1}{E_m \cdot A_m} + \frac{1}{E_s \cdot A_s}\right) = 1.01$$

$$m := u - \sqrt{u^2 - 1} = 0.88$$

$$C_g := \frac{m \cdot \left(1 - m^{2 \cdot n}\right)}{n \cdot \left(\left(1 + R_{EA} \cdot m^n\right) \cdot (1 + m) - 1 + m^{2 \cdot n}\right)} \cdot \frac{1 + R_{EA}}{1 - m} = 1$$

$Z' := Z \cdot C_D \cdot C_M \cdot C_t \cdot C_g \cdot C_\Delta = 1406.22\ lbf$

$F := 2500\ lbf$ From RISA

$n_{row} := 1$ Number of rows

$n_{bolt} := n \cdot n_{row} = 2$ Total bolts in each member

$n_{req} := \frac{F}{Z'} = 1.78$ Provide (2) bolts in each member

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Double Shear Bolt Connection with Steel Side Plates per NDS 2018 Section 12.3

Reference Detail 4/S502

$D := 0.5\ in$ Bolt diameter

$F_{yb} := 45000\ psi$ Dowel bending yield strength

$F_{e.para} := 5600\ psi$
$F_{e.perp} := 3150\ psi$ Dowel bearing strength in wood parallel and perpendicular to grain

$\theta := 60\ °$ Angle between direction of load and direction of grain

$F_{em} := \frac{F_{e.para} \cdot F_{e.perp}}{F_{e.para} \cdot \sin(\theta)^2 + F_{e.perp} \cdot \cos(\theta)^2} = 3536.84\ psi$ Dowel bearing strength in wood at θ

$F_{es} := 58000\ psi$ Dowel bearing strength in A36 steel

$R_e := \frac{F_{em}}{F_{es}} = 0.06$

$l_m := 1.75\ in$ Main member dowel bearing length

$l_s := 0.125\ in$ Side member dowel bearing length

$R_{d.I} := 4 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 4.67$ Reduction term for Yield Mode I (see Table 12.3.1B)

$R_{d.IV} := 3.2 \cdot \left(1 + 0.25 \cdot \left(\frac{\theta}{90\ °}\right)\right) = 3.73$ Reduction term for Yield Mode III and IV (see Table 12.3.1B)

$k_3 := -1 + \sqrt{\frac{2\ (1 + R_e)}{R_e} + \frac{2 \cdot F_{yb} \cdot (2 + R_e) \cdot D^2}{3 \cdot F_{em} \cdot l_s^2}} = 16.73$

Yield Limit Equations for Double Shear Connections

$Z_{Im} := \frac{D \cdot l_m \cdot F_{em}}{R_{d.I}} = 663.16\ lbf$ Yield Mode Im

$Z_{Is} := \frac{2 \cdot D \cdot l_s \cdot F_{es}}{R_{d.I}} = 1553.57\ lbf$ Yield Mode Is

$Z_{IIIs} := \frac{2 \cdot k_3 \cdot D \cdot l_s \cdot F_{em}}{(2 + R_e) \cdot R_{d.IV}} = 961.52\ lbf$ Yield Mode IIIs

$Z_{IV} := \frac{2 \cdot D^2}{R_{d.IV}} \cdot \sqrt{\frac{2 \cdot F_{em} \cdot F_{yb}}{3 \cdot (1 + R_e)}} = 1339.33\ lbf$ Yield Mode IV

$Z := min(Z_{Im}, Z_{Is}, Z_{IIIs}, Z_{IV}) = 663.16\ lbf$ Controlling Lateral Design Value

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Lateral Load Adjustment Factors for Dowel-Type Fasteners:

$C_D := 1.15 \quad C_M := 1 \quad C_t := 1 \quad C_\Delta := .857$ Adjustment factors per NDS 2018

Find the Group Action Factor:

$n := 2$ Number of fasteners per row

$E_m := 900\ ksi$ Modulus of elasticity of main member

$E_s := 29000\ ksi$ Modulus of elasticity of side member

$A_m := 15.75\ in^2$ Gross cross sectional area of main member

$A_s := 2.25\ in^2$ Gross cross sectional area of side members

$$R_{EA} := min\left(\frac{E_s \cdot A_s}{E_m \cdot A_m}, \frac{E_m \cdot A_m}{E_s \cdot A_s}\right) = 0.22$$

$$D_0 := \frac{D}{in} = 0.5$$

$\gamma := \left(270000 \cdot D_0^{1.5}\right) \frac{lbf}{in} = 95459.42 \frac{lbf}{in}$ load/slip modulus for dowel-type fasteners in wood to metal connections

$s := 3.5\ in$ center to center spacing of fasteners in a row

$$u := 1 + \gamma \cdot \left(\frac{s}{2}\right) \cdot \left(\frac{1}{E_m \cdot A_m} + \frac{1}{E_s \cdot A_s}\right) = 1.01$$

$$m := u - \sqrt{u^2 - 1} = 0.84$$

$$C_g := \frac{m \cdot \left(1 - m^{2n}\right)}{n \cdot \left(\left(1 + R_{EA} \cdot m^n\right)\left(1 + m\right) - 1 + m^{2n}\right)} \cdot \frac{1 + R_{EA}}{1 - m} = 0.99$$

$Z' := Z \cdot C_D \cdot C_M \cdot C_t \cdot C_g \cdot C_\Delta = 647.68\ lbf$

$F := 1295\ lbf$ From RISA

$n_{row} := 1$ Number of rows

$n_{bolt} := n \cdot n_{row} = 2$ Total bolts in each member

$n_{req} := \frac{F}{Z'} = 2$ Provide (2) rows of (2) bolts in each rafter member

Project Title:
Engineer:
Project ID:
Project Descr:

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Wall Footing

File: Avrame 20psf RLL.ec6

Lic. # : KW-06000591

MEIER ENTERPRISES INC.

DESCRIPTION: Wall footings - bearing

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : ASCE 7-16

General Information

Material Properties

f'c : Concrete 28 day strength	=	3.0 ksi
fy : Rebar Yield	=	60.0 ksi
Ec : Concrete Elastic Modulus	=	3,122.0 ksi
Concrete Density	=	145.0 pcf
φ Values Flexure	=	0.90
Shear	=	0.750

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.0 : 1
Min. Sliding Safety Factor	=	1.0 : 1
AutoCalc Footing Weight as DL	:	Yes

Soil Design Values

Allowable Soil Bearing	=	1.50 ksf
Increase Bearing By Footing Weight	=	No
Soil Passive Resistance (for Sliding)	=	300.0 pcf
Soil/Concrete Friction Coeff.	=	0.40

Increases based on footing Depth

Reference Depth below Surface	=	1.50 ft
Allow. Pressure Increase per foot of depth	=	ksf
when base footing is below	=	ft

Increases based on footing Width

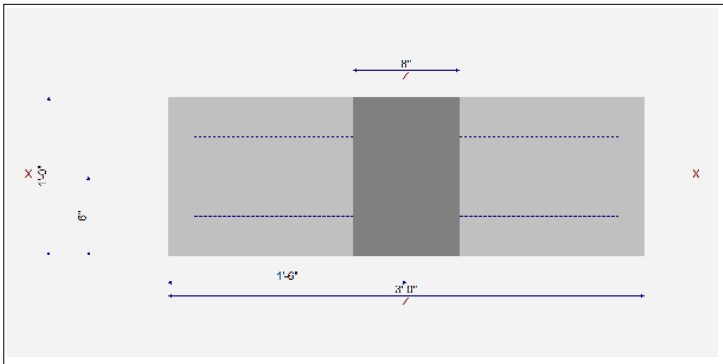
Allow. Pressure Increase per foot of width	=	ksf
when footing is wider than	=	ft

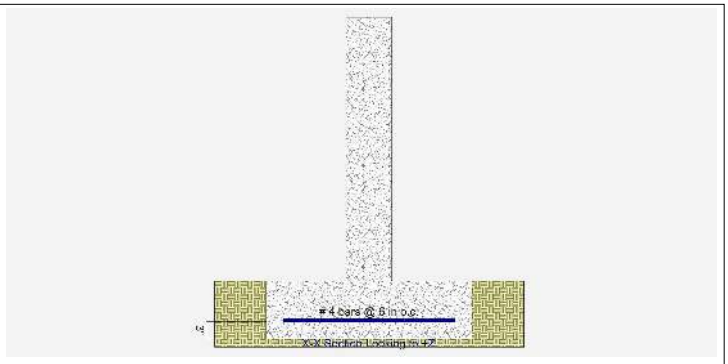
Adjusted Allowable Bearing Pressure = 1.50 ksf

Dimensions

Footing Width	=	3.0 ft	Footing Thickness	=	10.0 in	Bars along X-X Axis	
Wall Thickness	=	8.0 in	Rebar Centerline to Edge of Concrete...			Bar spacing	= 6.00
Wall center offset from center of footing	=	0 in	at Bottom of footing	=	3.0 in	Reinforcing Bar Size	= # 4

Reinforcing





Applied Loads

		D	Lr	L	S	W	E	H	
P : Column Load	=	0.7965		0.5336	0.5867	-0.5876	-0.1794		k
OB : Overburden	=								ksf
V-x	=								k
M-zz	=								k-ft
Vx applied	=		in above top of footing						

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Wall Footing

File: Avrame 20psf RLL.ec6

Lic. # : KW-06000591 — MEIER ENTERPRISES INC.

DESCRIPTION: Wall footings - bearing

DESIGN SUMMARY

Design OK

	Factor of Safety	Item	Applied	Capacity	Governing Load Combination
PASS	n/a	Overturning - Z-Z	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Sliding - X-X	0.0 k	0.0 k	No Sliding
PASS	1.972	Uplift	-0.3526 k	0.6954 k	+0.60D+0.60W

	Utilization Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.4443	Soil Bearing	0.6664 ksf	1.50 ksf	+D+0.750L+0.750S
PASS	0.05461	Z Flexure (+X)	0.6495 k-ft	11.894 k-ft	+1.20D+L+1.60S
PASS	0.01647	Z Flexure (-X)	0.1959 k-ft	11.894 k-ft	+0.90D+E
PASS	0.08297	1-way Shear (+X)	6.817 psi	82.158 psi	+1.20D+L+1.60S
PASS	0.08297	1-way Shear (-X)	6.817 psi	82.158 psi	+1.20D+L+1.60S

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc	Actual Soil Bearing Stress -X	Actual Soil Bearing Stress +X	Actual / Allowable Ratio
, D Only	1.50 ksf	0.0 in	0.3863 ksf	0.3863 ksf	0.258
, +D+L	1.50 ksf	0.0 in	0.5642 ksf	0.5642 ksf	0.376
, +D+S	1.50 ksf	0.0 in	0.5819 ksf	0.5819 ksf	0.388
, +D+0.750L	1.50 ksf	0.0 in	0.5197 ksf	0.5197 ksf	0.347
, +D+0.750L+0.750S	1.50 ksf	0.0 in	0.6664 ksf	0.6664 ksf	0.444
, +D+0.60W	1.50 ksf	0.0 in	0.2688 ksf	0.2688 ksf	0.179
, +D+0.750L+0.450W	1.50 ksf	0.0 in	0.4316 ksf	0.4316 ksf	0.288
, +D+0.750L+0.750S+0.450W	1.50 ksf	0.0 in	0.5783 ksf	0.5783 ksf	0.386
, +0.60D+0.60W	1.50 ksf	0.0 in	0.1143 ksf	0.1143 ksf	0.076
, +D+0.70E	1.50 ksf	0.0 in	0.3445 ksf	0.3445 ksf	0.230
, +D+0.750L+0.750S+0.5250E	1.50 ksf	0.0 in	0.6350 ksf	0.6350 ksf	0.423
, +0.60D+0.70E	1.50 ksf	0.0 in	0.1899 ksf	0.1899 ksf	0.127

Overturning Stability

Units : k-ft

Rotation Axis & Load Combination...	Overturning Moment	Resisting Moment	Stability Ratio	Status

Footing Has NO Overturning

Sliding Stability

Force Application Axis Load Combination...	Sliding Force	Resisting Force	Sliding SafetyRatio	Status

Footing Has NO Sliding

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Which Side ?	Tension @ Bot. or Top ?	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
, +1.40D	0.3681	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.40D	0.3681	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+1.60L	0.5092	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+1.60L	0.5092	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+1.60L+0.50S	0.5757	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+1.60L+0.50S	0.5757	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L	0.4365	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L	0.4365	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+0.50W	0.2488	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+0.50W	0.2488	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D-0.50W	0.3821	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D-0.50W	0.3821	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+1.60S	0.6495	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+1.60S	0.6495	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+1.60S+0.50W	0.4618	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+1.60S+0.50W	0.4618	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+1.60S-0.50W	0.5951	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+1.60S-0.50W	0.5951	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+W	0.3032	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK

Project Title:
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Wall Footing

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DESCRIPTION: Wall footings - bearing

, +1.20D+L+W	0.3032	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L-W	0.5698	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 30 JUL 2021, 6:23PM

Wall Footing

File: Avrame 20psf RLL.ec6

Lic. # : KW-06000591

MEIER ENTERPRISES INC.

DESCRIPTION: Wall footings - bearing

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Which Side ?	Tension @ Bot. or Top ?	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
, +1.20D+L-W	0.5698	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+0.50S+W	0.3698	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+0.50S+W	0.3698	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+0.50S-W	0.6364	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+0.50S-W	0.6364	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +0.90D+W	0.1033	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +0.90D+W	0.1033	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +0.90D-W	0.3699	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +0.90D-W	0.3699	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+0.20S+E	0.4225	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +1.20D+L+0.20S+E	0.4225	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +0.90D+E	0.1959	-X	Bottom	0.216	Min Temp %	0.4	11.894	OK
, +0.90D+E	0.1959	+X	Bottom	0.216	Min Temp %	0.4	11.894	OK

One Way Shear

Units : k

Load Combination...	Vu @ -X	Vu @ +X	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D	3.863 psi	3.863 psi	3.863 psi	82.158 psi	0.04702	OK
+1.20D+1.60L	5.344 psi	5.344 psi	5.344 psi	82.158 psi	0.06505	OK
+1.20D+1.60L+0.50S	6.043 psi	6.043 psi	6.043 psi	82.158 psi	0.07355	OK
+1.20D+L	4.582 psi	4.582 psi	4.582 psi	82.158 psi	0.05577	OK
+1.20D+0.50W	2.612 psi	2.612 psi	2.612 psi	82.158 psi	0.03179	OK
+1.20D-0.50W	4.011 psi	4.011 psi	4.011 psi	82.158 psi	0.04882	OK
+1.20D+L+1.60S	6.817 psi	6.817 psi	6.817 psi	82.158 psi	0.08297	OK
+1.20D+1.60S+0.50W	4.847 psi	4.847 psi	4.847 psi	82.158 psi	0.059	OK
+1.20D+1.60S-0.50W	6.246 psi	6.246 psi	6.246 psi	82.158 psi	0.07602	OK
+1.20D+L+W	3.183 psi	3.183 psi	3.183 psi	82.158 psi	0.03874	OK
+1.20D+L-W	5.981 psi	5.981 psi	5.981 psi	82.158 psi	0.0728	OK
+1.20D+L+0.50S+W	3.881 psi	3.881 psi	3.881 psi	82.158 psi	0.04724	OK
+1.20D+L+0.50S-W	6.679 psi	6.679 psi	6.679 psi	82.158 psi	0.0813	OK
+0.90D+W	1.085 psi	1.085 psi	1.085 psi	82.158 psi	0.0132	OK
+0.90D-W	3.883 psi	3.883 psi	3.883 psi	82.158 psi	0.04726	OK
+1.20D+L+0.20S+E	4.434 psi	4.434 psi	4.434 psi	82.158 psi	0.05397	OK
+0.90D+E	2.056 psi	2.056 psi	2.056 psi	82.158 psi	0.02503	OK

Project: Trio 150 - Ruzic - Fort White, FL
Calculation No.: 8785-S9 Revision: 0
Preparer: TDK Reviewer:

Type 1 Shear Wall

$w_{W1} := 87\ plf$ $w_{E1} := 12\ plf$

1/2" anchor bolts

$$AB_{W1.0.5} := \frac{650\ lbf \cdot 1.6}{w_{W1}} = 143\ in \qquad AB_{E1.0.5} := \frac{650\ lbf \cdot 1.6}{w_{E1}} = 1040\ in$$

5/8" anchor bolts

$$AB_{W1.0.625} := \frac{930\ lbf \cdot 1.6}{w_{W1}} = 205\ in \qquad AB_{E1.0.625} := \frac{930\ lbf \cdot 1.6}{w_{E1}} = 1488\ in$$

Provide anchor bolts at 24" c/c

SIMPSON Strong-Tie

Anchor Designer™ Software
Version 2.9.7376.5

Company:		Date:	1/4/2021
Engineer:		Page:	1/5
Project:	typical stem wall		
Address:			
Phone:			
E-mail:			

1.Project information

Customer company:
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location:
Fastening description:

2. Input Data & Anchor Parameters

General
Design method:ACI 318-14
Units: Imperial units

Anchor Information:
Anchor type: Concrete screw
Material: Carbon Steel
Diameter (inch): 0.500
Nominal Embedment depth (inch): 4.000
Effective Embedment depth, h_{ef} (inch): 2.990
Code report: ICC-ES ESR-2713
Anchor category: 1
Anchor ductility: No
h_{min} (inch): 6.25
c_{ac} (inch): 4.50
C_{min} (inch): 1.75
S_{min} (inch): 3.00

Base Material
Concrete: Normal-weight
Concrete thickness, h (inch): 24.00
State: Cracked
Compressive strength, f'_c (psi): 2500
$\Psi_{c,V}$: 1.0
Reinforcement condition: B tension, B shear
Supplemental reinforcement: Not applicable
Reinforcement provided at corners: No
Ignore concrete breakout in tension: No
Ignore concrete breakout in shear: No
Ignore 6do requirement: Not applicable
Build-up grout pad: No

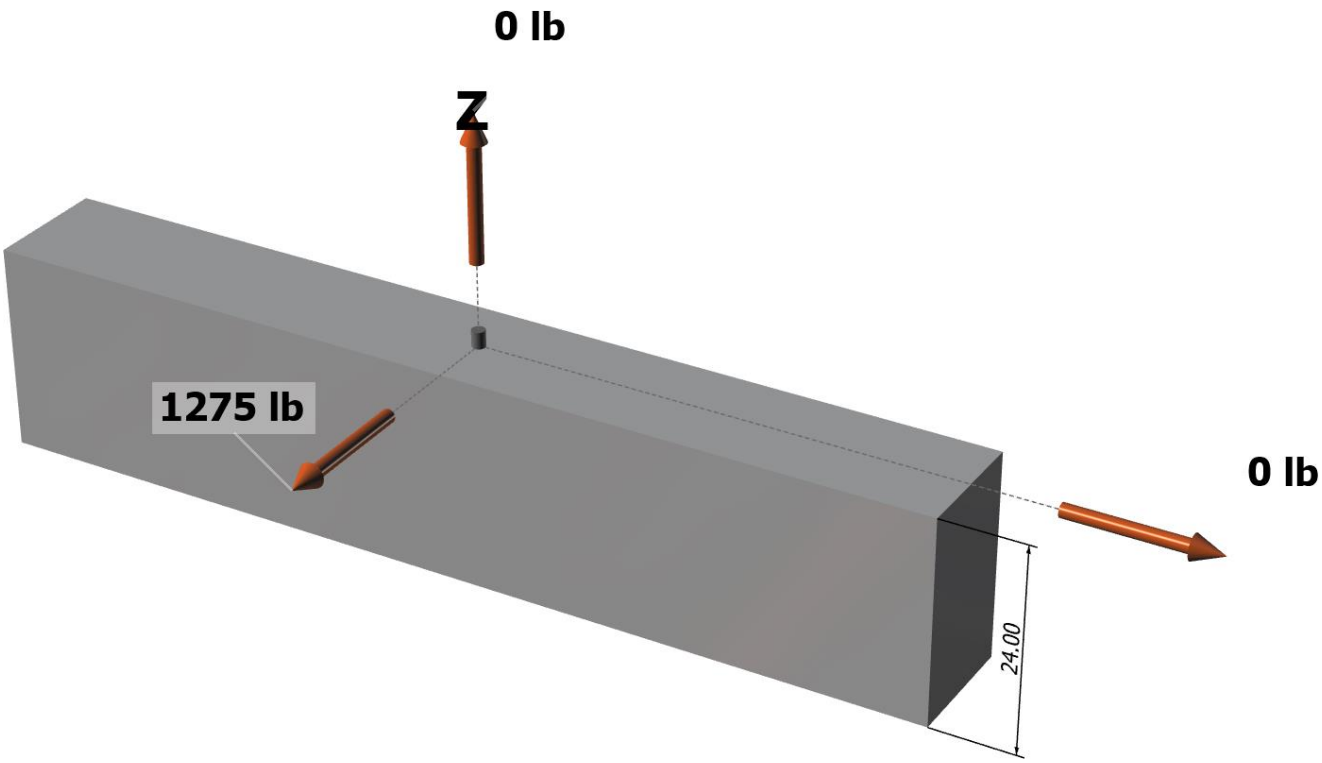
Recommended Anchor
Anchor Name: Titen HD® - 1/2"Ø Titen HD, hnom:4" (102mm)
Code Report: ICC-ES ESR-2713

Load and Geometry
Load factor source: ACI 318 Section 5.3
Load combination: not set
Seismic design: No
Anchors subjected to sustained tension: Not applicable
Apply entire shear load at front row: No
Anchors only resisting wind and/or seismic loads: Yes

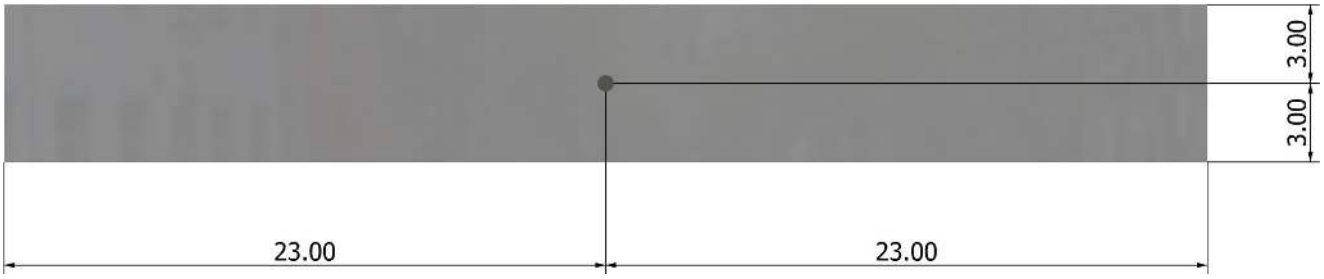
Strength level loads:

N_{ua} [lb]: 0
V_{uax} [lb]: 1275
V_{uay} [lb]: 0

<Figure 1>



<Figure 2>



SIMPSON Strong-Tie

Anchor Designer™ Software
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Company:		Date:	1/4/2021
Engineer:		Page:	4/5
Project:	typical stem wall		
Address:			
Phone:			
E-mail:			

3. Resulting Anchor Forces

Anchor	Tension load, N_{ua} (lb)	Shear load x, V_{uax} (lb)	Shear load y, V_{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2+(V_{uay})^2}$ (lb)
1	0.0	1275.0	0.0	1275.0
Sum	0.0	1275.0	0.0	1275.0

Maximum concrete compression strain (‰): 0.00
Maximum concrete compression stress (psi): 0
Resultant tension force (lb): 0
Resultant compression force (lb): 0
Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 0.00
Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 0.00
Eccentricity of resultant shear forces in x-axis, e'_{Vx} (inch): 0.00
Eccentricity of resultant shear forces in y-axis, e'_{Vy} (inch): 0.00

8. Steel Strength of Anchor in Shear (Sec. 17.5.1)

V_{sa} (lb)	ϕ_{grout}	ϕ	$\phi_{grout}\phi V_{sa}$ (lb)
7455	1.0	0.60	4473

9. Concrete Breakout Strength of Anchor in Shear (Sec. 17.5.2)

Shear perpendicular to edge in x-direction:

$V_{bx} = \min|7(l_e / d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5};\ 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{bx} (lb)
2.99	0.500	1.00	2500	3.00	1839

$\phi V_{cbx} = \phi\,(A_{Vc} / A_{Vco})\,\Psi_{ed,V}\,\Psi_{c,V}\,\Psi_{h,V}\,V_{bx}$ (Sec. 17.3.1 & Eq. 17.5.2.1a)

A_{Vc} (in²)	A_{Vco} (in²)	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{bx} (lb)	ϕ	ϕV_{cbx} (lb)
40.50	40.50	1.000	1.000	1.000	1839	0.70	1287

Shear parallel to edge in x-direction:

$V_{by} = \min|7(l_e / d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5};\ 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{by} (lb)
2.99	0.500	1.00	2500	16.00	22650

$\phi V_{cbx} = \phi\,(2)(A_{Vc} / A_{Vco})\,\Psi_{ed,V}\,\Psi_{c,V}\,\Psi_{h,V}\,V_{by}$ (Sec. 17.3.1, 17.5.2.1(c) & Eq. 17.5.2.1a)

A_{Vc} (in²)	A_{Vco} (in²)	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{by} (lb)	ϕ	ϕV_{cbx} (lb)
144.00	1152.00	1.000	1.000	1.000	22650	0.70	3964

10. Concrete Pryout Strength of Anchor in Shear (Sec. 17.5.3)

$\phi V_{cp} = \phi k_{cp} N_{cb} = \phi k_{cp}(A_{Nc} / A_{Nco})\,\Psi_{ed,N}\,\Psi_{c,N}\,\Psi_{cp,N} N_b$ (Sec. 17.3.1 & Eq. 17.5.3.1a)

k_{cp}	A_{Nc} (in^2)	A_{Nco} (in^2)	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕV_{cp} (lb)
2.0	53.82	80.46	0.901	1.000	1.000	4395	0.70	3707

11. Results

11. Interaction of Tensile and Shear Forces (Sec. D.7)?

Shear	Factored Load, V_{ua} (lb)	Design Strength, øV_n (lb)	Ratio	Status
Steel	1275	4473	0.29	Pass
T Concrete breakout x+	**1275**	**1287**	**0.99**	**Pass (Governs)**
|| Concrete breakout y-	**1275**	**3964**	**0.32**	**Pass (Governs)**
Pryout	1275	3707	0.34	Pass

1/2"Ø Titen HD, hnom:4" (102mm) meets the selected design criteria.

12. Warnings

- Designer must exercise own judgement to determine if this design is suitable.

- Refer to manufacturer's product literature for hole cleaning and installation instructions.